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IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

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OPTIS WIRELESS TECHNOLOGY,) (CIVIL ACTION NO.
LLC, OPTIS CELLULAR) (2:19-CV-66-JRG
TECHNOLOGY, LLC, PANOPTIS) (
PATENT MANAGEMENT, LLC,) (
UNWIRED PLANET, LLC, UNWIRED) (
PLANET INTERNATIONAL LIMITED,) (
PLAINTIFFS,) (
VS.) (
MARSHALL, TEXAS
AUGUST 5, 2020
APPLE INC.,) (1:12 P.M.
DEFENDANTS.) (

TRANSCRIPT OF JURY TRIAL

AFTERNOON SESSION

BEFORE THE HONORABLE JUDGE RODNEY GILSTRAP

UNITED STATES CHIEF DISTRICT JUDGE

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13 (Proceedings recorded by mechanical stenography, transcript
14 produced on a CAT system.)
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P R O C E E D I N G S

(Jury out.)

COURT SECURITY OFFICER: All rise.

THE COURT: Be seated, please.

Plaintiff, are you prepared to call your next witness?

MR. SHEASBY: We are, Your Honor.

THE COURT: And who do you intend to call, Mr. Sheasby?

MR. SHEASBY: Your Honor -- Your Honor, we intend to call Ms. Johanna Dwyer, presented by Ms. Ingrid Petersen.

THE COURT: All right. With regard to Ms. Dwyer, the Court is aware that there is a motion on the docket by Defendant asking the Court to preclude her testimony.

Have the parties resolved that, or do I need to rule on that motion?

MR. MUELLER: Your Honor, we're going to take it up on cross-examination, so no need to rule, Your Honor.

THE COURT: If you're going to take it up on cross-examination, then I'll deny the motion to preclude.

MR. MUELLER: Understood.

THE COURT: All right. I just don't want an unresolved issue on my docket.

All right. Is there anything else that needs to

01:13:32 1 be raised with the Court before I bring the jury back in?

01:13:35 2 MR. SHEASBY: Nothing from Plaintiffs, Your Honor.

01:13:36 3 MR. MUELLER: Just one thing, Your Honor, we
01:13:38 4 checked the transcript from the deposition of Ms. Mewes
01:13:41 5 that was played yesterday. The clips that were played were
01:13:44 6 indeed the clips that were agreed to that came out of the
01:13:47 7 process, but they were not played in chronological order;
01:13:51 8 they were shuffled somehow. We just ask that any
01:13:54 9 deposition clips that are played be played in transcript
01:13:57 10 order.

01:13:57 11 THE COURT: I sure -- I assume that was something
01:14:00 12 that was unintentional, and I assume everyone's intention
01:14:04 13 is to not shuffle but keep in the same order any deposition
01:14:10 14 designation testimony going forward. Anybody disagree with
01:14:10 15 that?

01:14:10 16 MR. SHEASBY: No, Your Honor, it was
01:14:11 17 unintentional.

01:14:13 18 THE COURT: I'm not sure what we can do about it
01:14:14 19 being shuffled now.

01:14:14 20 MR. SHEASBY: Well, I just want to note for the
01:14:16 21 record that they looked at the order before it was played.
01:14:18 22 It was given to them.

01:14:19 23 THE COURT: And -- and it doesn't really help me
01:14:21 24 to do this, you know, finger-pointing. It happened. It's
01:14:25 25 done. We can't fix it. But let's make sure we don't have

01:14:29 1 it happen again.

01:14:30 2 MR. SHEASBY: I understand, Your Honor.

01:14:32 3 THE COURT: All right. Let's bring in the jury,
01:14:34 4 please, Mr. Elliott.

01:14:36 5 COURT SECURITY OFFICER: All rise.

01:14:56 6 (Jury in.)

01:14:56 7 THE COURT: Welcome back from lunch, ladies and
01:15:01 8 gentlemen. Please have a seat.

01:15:03 9 Plaintiff, call your next witness.

01:15:09 10 MR. SHEASBY: Your Honor, Plaintiffs call
01:15:13 11 Ms. Johanna Dwyer.

01:15:13 12 THE COURT: All right. Ms. Dwyer, if you'll come
01:15:17 13 forward, please, and be sworn.

01:15:30 14 (Witness sworn.)

01:15:31 15 THE COURT: If you will, please come around and
01:15:42 16 have a seat at the witness stand.

01:15:44 17 All right. Counsel, if you'll introduce yourself
01:15:59 18 to the jury and then proceed with your direct examination.

01:16:02 19 MS. PETERSEN: Good afternoon, my name is Ingrid
01:16:05 20 Petersen on behalf of the Plaintiffs.

01:16:05 21 JOHANNA DWYER, PLAINTIFFS' WITNESS, SWORN

01:16:05 22 DIRECT EXAMINATION

01:16:08 23 BY MS. PETERSEN:

01:16:08 24 Q. Good afternoon. Could you please introduce yourself to
01:16:11 25 the jury?

01:16:12 1 A. Yes. Good afternoon. My name is Johanna Dwyer.

01:16:14 2 Q. Ms. Dwyer, could you tell us a little bit about
01:16:18 3 yourself?

01:16:18 4 A. I'd be happy to. So I was born and raised in a little
01:16:23 5 village called Hockley Village, which is in Canada. And my
01:16:27 6 family, my brother and I, lived in a small cabin on a lake
01:16:31 7 growing up where I learned to fish and to swim.

01:16:35 8 And my brother and I were very fortunate to be the
01:16:38 9 first people in our family to ever going to a university,
01:16:40 10 which is something that I'm both grateful for and very
01:16:43 11 proud of.

01:16:44 12 And it was at university that I met my husband,
01:16:47 13 Jerry, and we'll be married 24 years this month. We have
01:16:54 14 three children, ages 17, 19, and 21. My oldest daughter is
01:16:59 15 studying to be a nurse, and she'll finish next year. My
01:16:59 16 son is studying engineering. And my youngest daughter will
01:17:04 17 be a senior in high school next year.

01:17:05 18 Q. Ms. Dwyer, why are you here today?

01:17:07 19 A. I'm here to give my opinion from the perspective of a
01:17:13 20 technical delegate, who has attended 3GPP meetings, as to
01:17:17 21 whether the Plaintiffs' five patents are essential to the
01:17:20 22 standard of LTE.

01:17:21 23 Q. What is your opinion?

01:17:25 24 A. It's my opinion from the standpoint of a technical
01:17:28 25 delegate, that the Plaintiffs' five patents are truly

01:17:33 1 standard essential patents for LTE.

01:17:34 2 Q. How much are you being compensated for this case?

01:17:37 3 A. I'm being paid at my usual rate of \$600 per hour for my
01:17:45 4 work on this case.

01:17:46 5 Q. What does your work depend on?

01:17:49 6 A. My compensation depends solely on the hours that I put
01:17:53 7 in. And it's got no relation whatsoever to the outcome of
01:17:56 8 the case.

01:17:57 9 Q. What materials did you review for this case?

01:17:59 10 A. I've reviewed the Plaintiffs' five patents-in-suit and
01:18:02 11 the claim charts for those five patents, in addition to the
01:18:05 12 LTE standards, as well as patent analytics and deposition
01:18:15 13 testimony.

01:18:16 14 MS. PETERSEN: Could we please pull up Slide 2?

01:18:19 15 Q. (By Ms. Petersen) Could you please tell us, Ms. Dwyer,
01:18:21 16 a little bit about your education?

01:18:23 17 A. Yes, I can. In 1993, I was awarded a Bachelor of
01:18:27 18 Science degree in mathematics and engineering from Queen's
01:18:30 19 University, which is in Canada.

01:18:31 20 From 1996 to 2001, I took several graduate-level
01:18:38 21 courses in electrical engineering and completed several
01:18:41 22 projects on radio design. In 2013 I was awarded an MBA
01:18:47 23 from MIT.

01:18:48 24 MS. PETERSEN: Could we please go to Slide 3?

01:18:52 25 Q. (By Ms. Petersen) Ms. Dwyer, what experience do you

01:18:54 1 have in evaluating wireless technology?

01:18:57 2 A. I've been working in wireless technology my entire
01:19:02 3 career. I spent the first 10 years of my career designing,
01:19:07 4 developing, building, and testing radios for cell phones.

01:19:10 5 In the year 2000, I began working at Research In
01:19:14 6 Motion, RIM, which is now BlackBerry, where I similarly
01:19:19 7 built and developed and tested radios for the first five
01:19:22 8 years. And in 2005, I was asked to join the standards team
01:19:28 9 and to begin innovating and designing technologies for
01:19:32 10 contribution to 3GPP for developing wireless standards.

01:19:38 11 Q. And could you please discuss further what you did in
01:19:42 12 RIM's wireless standards team?

01:19:44 13 A. When I was in the wireless standards team, which I
01:19:47 14 began in 2005, in addition to attending meetings and I
01:19:52 15 managed a team also that attended those meetings during
01:19:56 16 that time, I ultimately was the -- the leader of the global
01:20:02 17 radio standards team.

01:20:03 18 And in that period of time, I analyzed a number of
01:20:07 19 patents and created claim charts for patents and was
01:20:11 20 charged with determining true essentiality of patents to
01:20:15 21 standards, including the LTE standard.

01:20:18 22 Q. What is your current employment?

01:20:20 23 A. In 2016, I started an IP consultancy firm called
01:20:30 24 QipWorks, and that's where I'm working here.

01:20:34 25 Q. Are you a named inventor on any patents?

01:20:36 1 A. I'm an inventor on 220 granted patents.

01:20:39 2 Q. And do any of those patents cover contributions to
01:20:42 3 3GPP?

01:20:42 4 A. I would say about 90 percent of those relate to
01:20:48 5 technologies that were innovated and contributed by myself
01:20:52 6 to 3GPP or by other people in my team.

01:20:55 7 Q. You mentioned a moment ago the term standards essential
01:21:02 8 patent. What is that?

01:21:04 9 A. A standards essential patent is a patent that covers
01:21:08 10 technology that was adopted into the standards.

01:21:10 11 So, for example, a standards essential LTE patent
01:21:16 12 is a patent that covers LTE technology that was adopted
01:21:19 13 into the standard that's used in LTE networks.

01:21:22 14 Q. You also mentioned the term 3GPP and that you
01:21:26 15 participated in 3GPP meetings. What is 3GPP?

01:21:29 16 A. 3GPP is an engineering group. It's a group that
01:21:36 17 develops and chooses the technology that gets included into
01:21:40 18 standards, for example, like the LTE standard.

01:21:44 19 Q. Who are 3GPP members?

01:21:48 20 A. 3GPP members are typically technology companies. And,
01:21:54 21 for example, Samsung, LG, and Panasonic are all members of
01:21:58 22 3GPP.

01:21:59 23 Q. And for LTE, who chose the technology to include into
01:22:04 24 the LTE standard?

01:22:06 25 A. The development of LTE was a 3GPP project, and so all

01:22:10 1 of the technology that was chosen for the LTE standard was
01:22:15 2 done in 3GPP.

01:22:16 3 Q. You mentioned your involvement in 3GPP meetings. What
01:22:22 4 involvement did you have in meetings regarding LTE?

01:22:27 5 A. LTE development in 3GPP began in 2005 until the end of
01:22:35 6 2008. And I joined the standards team at RIM in 2005, and
01:22:41 7 I attended meetings during the time from 2005 through 2008
01:22:46 8 when LTE was being developed, and I additionally managed
01:22:49 9 several people who were attending meetings at that time.

01:22:53 10 Q. How long have you been involved in the wireless
01:22:56 11 communication industry?

01:22:58 12 A. My entire career has been in wireless communication, so
01:23:07 13 that's over 25 years now.

01:23:10 14 Q. What has been the primary focus of your career?

01:23:12 15 A. The primary focus of my career has been patents, and
01:23:19 16 standards essential patents specifically, and developing
01:23:21 17 and analyzing claim charts for standards essential patents.

01:23:28 18 MS. PETERSEN: Can we please pull up Slide 4?

01:23:32 19 Q. (By Ms. Petersen) You mentioned that you analyzed
01:23:35 20 claim charts at RIM. What are claim charts?

01:23:38 21 A. So a claim chart is the proof that a patent is truly
01:23:43 22 essential to a standard. So as you can see on the slide
01:23:46 23 before you, this is the claim chart for the '284 patent
01:23:49 24 that we heard about earlier.

01:23:50 25 And as you can see on the left-hand side of the

01:23:52 1 claim chart, is where the claim from the patent is put, and
01:23:55 2 it's broken out element-by-element.

01:23:58 3 And then on the other side, on the right side of
01:24:00 4 the claim chart is the standards language that captures the
01:24:05 5 technology of the patent in -- specifically from that
01:24:09 6 claim.

01:24:09 7 So a claim chart goes claim-by-claim and
01:24:13 8 element-by-element in the claim, and it illustrates where
01:24:17 9 in the standards that technology is captured.

01:24:18 10 Q. When you were at RIM, who typically created claim
01:24:22 11 charts for you to analyze?

01:24:27 12 A. Claim charts are typically created -- or the creation
01:24:30 13 of the claim charts is overseen by the patent owners.

01:24:33 14 Q. And why did you analyze claim charts created by the
01:24:37 15 patent owners instead of creating them yourself?

01:24:41 16 A. It's very difficult to see flaws in your own work. So
01:24:46 17 when I create a claim chart, I spend time making it as
01:24:51 18 thorough and complete as I can possibly make it. And by
01:24:54 19 the time I hand it over, it's the best work I can do.

01:24:57 20 And I don't see any flaws in it at that point
01:25:00 21 because everybody thinks their own baby is beautiful. So
01:25:06 22 you need somebody else to have a look.

01:25:08 23 Q. What did you do with the claim charts that you received
01:25:11 24 when you were at RIM?

01:25:11 25 A. When I received claim charts at RIM, RIM would give me

01:25:16 1 the claim charts, and they'd say, could you try to break
01:25:20 2 these, please?

01:25:21 3 And that's what I would do. I would try to find
01:25:25 4 problems in the charts or inconsistencies or gaps or things
01:25:28 5 that weren't explained to my satisfaction. And if I could
01:25:31 6 find those and I could break the chart, then that would say
01:25:35 7 that that patent wasn't truly standards essential.

01:25:39 8 MS. PETERSEN: Your Honor, Plaintiffs offer
01:25:42 9 Ms. Johanna Dwyer as an expert on determining whether
01:25:45 10 patents are essential to the LTE standard.

01:25:46 11 THE COURT: Is there objection?

01:25:48 12 MS. SMITH: No, Your Honor.

01:25:50 13 THE COURT: Then, without objection, the Court
01:25:52 14 will recognize this witness as an expert in the designated
01:25:54 15 field.

01:25:54 16 Please continue, Ms. Petersen.

01:26:00 17 Q. (By Ms. Petersen) Turning to the patents in this case,
01:26:01 18 have you had a chance to review the five patents?

01:26:05 19 A. Yes, I've reviewed the five patents in this case.

01:26:08 20 Q. What did you know about the patents prior to becoming
01:26:11 21 an expert in this case?

01:26:12 22 A. Prior to becoming an expert in this case, I knew very
01:26:18 23 well the technology covered in the patents. I did not know
01:26:21 24 the patent numbers themselves.

01:26:23 25 Q. Is it unusual to not be familiar with patent numbers?

01:26:27 1 A. From the perspective of a technical delegate to 3GPP,
01:26:33 2 not at all. The technical delegates in 3GPP are concerned
01:26:37 3 with developing technologies and finding solutions to
01:26:40 4 problems. They're not concerned about patent numbers.

01:26:41 5 Q. Who owned these patents before PanOptis?

01:26:47 6 A. The patents before PanOptis were owned by LG, Samsung,
01:26:54 7 and Panasonic.

01:26:56 8 MS. PETERSEN: If we could go to Slide 5, please.

01:26:59 9 Q. (By Ms. Petersen) What did you do first to determine
01:27:00 10 whether the five patents are standard essential?

01:27:03 11 A. First I looked to see whether the companies had
01:27:06 12 declared the patents as standards essential to ETSI. ETSI
01:27:12 13 is the European Telecommunications Standards Institute.

01:27:17 14 And you'll see on the slide in front of you, these
01:27:21 15 are the -- the declaration forms that those companies
01:27:22 16 submitted to ETSI.

01:27:24 17 Q. Could you please explain to the jury why patent owners
01:27:29 18 submit declarations to ETSI?

01:27:31 19 A. Yes, I can. So ETSI is a standardization body, and
01:27:34 20 what that means is that ETSI publishes standards so that
01:27:38 21 people can make products according to those standards.

01:27:41 22 ETSI's concerned that people can make products.
01:27:46 23 That's what they're concerned about. So when they ask
01:27:49 24 companies to declare that the companies have a patent which
01:27:52 25 may be or may become essential to that standard, what

01:27:55 1 they're asking the patent owner for is an irrevocable
01:27:59 2 promise that they will license that patent so that people
01:28:02 3 can build products according to the standard. Otherwise,
01:28:06 4 ETSI might publish a standard that nobody could use because
01:28:10 5 a patent owner would block their use of it.

01:28:12 6 MS. PETERSEN: If we could please turn to Slide 6.

01:28:15 7 Q. (By Ms. Petersen) After you determined that the patent
01:28:20 8 owner submitted declarations, what did you do next?

01:28:25 9 A. Next I reviewed and analyzed the claim charts for the
01:28:29 10 patents-in-suit. And as you can see on the slide, these
01:28:31 11 are the first -- these are the first pages for each of
01:28:33 12 those claim charts that I analyzed.

01:28:35 13 Q. Ms. Dwyer, there is a set of documents in front of you
01:28:39 14 on the stand. Could you please take a look at the
01:28:42 15 documents in front of you? And after you've taken a look,
01:28:54 16 could you please tell us what these documents are?

01:28:59 17 A. These documents are the claim charts for the five
01:29:03 18 patents-in-suit.

01:29:03 19 Q. And are these the claim charts that you reviewed for
01:29:08 20 your analysis in this case?

01:29:09 21 A. Yes, they are.

01:29:13 22 Q. How many pages are in these claim charts?

01:29:16 23 A. I wouldn't know exactly total, but I would expect
01:29:20 24 around 300 or so. I know that the '284 patent claim chart
01:29:24 25 alone has 91 pages.

01:29:26 1 Q. How many pages from those documents did you analyze?

01:29:28 2 A. Each and every one of them.

01:29:30 3 Q. Who created the claim charts for these patents?

01:29:34 4 A. The claim charts were provided to me by a technical
01:29:39 5 team that assists PanOptis.

01:29:40 6 Q. Could you please describe for us whether anyone helped
01:29:44 7 you during your analysis of these claim charts?

01:29:47 8 A. When I was analyzing these claim charts, when I had
01:29:53 9 questions or points that needed clarification, then I would
01:29:57 10 work with the technical team that provided me the claim
01:30:00 11 charts.

01:30:00 12 In addition, I had a colleague of mine,

01:30:03 13 Mr. Nicolas Anderson, review the claim charts.

01:30:08 14 Mr. Anderson was a 3GPP delegate to the RAND
01:30:11 15 working groups that do the radio part for the entire time
01:30:16 16 that LTE was being developed. And he's a very good chart
01:30:19 17 breaker, like myself. So I asked him to analyze them, as
01:30:22 18 well.

01:30:23 19 Q. And how did you analyze these claim charts?

01:30:25 20 A. I analyzed the claim charts using the same process that
01:30:28 21 I would have used at RIM, which is going element-by-element
01:30:33 22 and determining whether or not the standards text that is
01:30:37 23 mapped to that element truly represents what that element
01:30:40 24 is showing.

01:30:42 25 And if element-by-element I could find the text or

01:30:47 1 the text that was mapped I felt was the correct text and it
01:30:55 2 covered exactly what the claim taught, then you would say
01:30:56 3 that that claim maps to the standard, or you might say that
01:30:59 4 claim reads on the standard. Both mean that the patent is
01:31:03 5 essential to the standard.

01:31:04 6 Q. Did you take any additional steps?

01:31:06 7 A. I have since reviewed the Court's claim construction,
01:31:10 8 and it hasn't changed my opinion in any way.

01:31:13 9 Q. After reviewing the hundreds of pages in these claim
01:31:17 10 charts, were you able to break the claim charts for these
01:31:21 11 five patents?

01:31:22 12 A. No, I was not able to break the claim charts for these
01:31:25 13 five patents, and neither was my colleague, Mr. Anderson.

01:31:28 14 Q. Why does it matter that neither you nor
01:31:31 15 Mr. Anderson were able to break these claim charts?

01:31:34 16 A. The fact that my -- Mr. Anderson and myself couldn't
01:31:39 17 break them after trying quite hard to do so is an
01:31:43 18 indication that the claim charts are strong, water-tight,
01:31:47 19 you might say, and the patents are true standards essential
01:31:50 20 patents to the LTE standard.

01:31:51 21 Q. After you left the standards group at RIM and began
01:31:59 22 your consulting work, did you investigate how many patent
01:32:02 23 families you believe have been declared essential to the
01:32:05 24 LTE standard?

01:32:05 25 A. Yes, I did. So, as of the end of last year, so the end

01:32:12 1 of 2019, I believe that there are 6,611 patent families
01:32:19 2 that have been declared as essential to LTE.

01:32:21 3 Q. Of those LTE patent families, how many are truly
01:32:26 4 essential ones to the LTE handsets?

01:32:28 5 A. It's my belief that approximately 607 of the 6,611
01:32:38 6 declared patents are actually truly essential patents to
01:32:41 7 LTE handsets.

01:32:42 8 Q. How did you calculate that number?

01:32:44 9 A. I got that number from using something that's called an
01:32:49 10 essentiality rate. So I'll explain a little bit about what
01:32:53 11 that is.

01:32:53 12 So if I were to tell you that 90 percent of the
01:32:58 13 people in Harrison County love Texas barbecue, right --
01:33:05 14 there's about 66,000 people, I believe, in Harrison
01:33:09 15 County -- would you have assumed that I went out and talked
01:33:12 16 to 66,000 people to find out if they like Texas barbecue to
01:33:19 17 tell you that 90 percent of them do? Probably not, right,
01:33:20 18 because that would take a long time.

01:33:22 19 So an essentiality rate is -- is just like that.
01:33:25 20 You take a smaller group of representative samples -- or,
01:33:28 21 in this case, declared patents, and determine how many of
01:33:31 22 those are truly essential, and then you would apply that to
01:33:34 23 the entire population.

01:33:35 24 So that's what an essentiality rate is, and that's
01:33:39 25 what I applied to the number of declared patents to get the

01:33:44 1 number of true SEPs.

01:33:46 2 Q. And where did you get that rate that you applied?

01:33:49 3 A. There are a lot of studies that are done on exactly

01:33:52 4 this question about what the true essentiality rate is.

01:33:57 5 So I referred to several of those studies from

01:34:00 6 reputable sources, and I also referred to comments made by

01:34:07 7 Ms. Mewes of Apple where she indicated that, in general

01:34:11 8 it's her belief that 1 out of 10 -- so 1 true SEP out of 10

01:34:16 9 declared SEPs -- these are standards essential patents --

01:34:18 10 that that's in general what she believed to be true.

01:34:23 11 MS. PETERSEN: Could we please pull up Slide 7?

01:34:26 12 Q. (By Ms. Petersen) After you verified that Samsung, LG,

01:34:27 13 and Panasonic submitted declarations to ETSI and that

01:34:28 14 these, based on your own analysis, are truly standard

01:34:31 15 essential patents, what did you do next?

01:34:33 16 A. Next I considered the strength of the patents and the

01:34:38 17 value of the technology in the patents. And in doing so, I

01:34:44 18 referred to the Innography tool, the database that --

01:34:48 19 Innography, which has patent analytics.

01:34:51 20 So Innography actually refers to a tool that uses

01:34:55 21 a database with over a hundred million patents in it, and

01:35:00 22 it provides various abilities to analyze those patents and

01:35:04 23 look at them in different ways. And one of the things that

01:35:06 24 it provides is something called the strength score.

01:35:09 25 And as you can see on this slide, the strength

01:35:12 1 score provided by Innography for these five patents is all
01:35:15 2 in the top 25 percent.

01:35:18 3 Q. Why did you use Innography?

01:35:21 4 A. I used Innography because it's a tool that Apple uses.

01:35:25 5 So, again, according to Ms. Mewes, Apple's used that
01:35:30 6 platform since at least 2017. And Ms. Mewes also said that
01:35:35 7 Apple employees are trained to use this platform.

01:35:38 8 Q. What did you find when you analyzed the five patents in
01:35:41 9 Innography?

01:35:42 10 A. As I mentioned, so the strength scores of the patents
01:35:47 11 were all above 75 percent, so they were in the top quarter.

01:35:51 12 Q. How do those patent strength scores relate to your
01:35:56 13 opinion?

01:35:56 14 A. So my opinion, with my knowledge of the technology and
01:35:59 15 of the standards, is that the technology in these patents
01:36:02 16 is valuable technology to the LTE standards. And so the
01:36:07 17 Innography strength score was just really a corroboration
01:36:10 18 of my own view that the patents are very strong.

01:36:12 19 Q. Ms. Dwyer, could you please tell us the conclusion that
01:36:16 20 you reached regarding the five patents in this case?

01:36:18 21 A. The conclusion that I reached from the perspective of a
01:36:23 22 technical delegate who's been in 3GP -- 3GPP meetings, as
01:36:30 23 well as someone who is an expert in analyzing standards
01:36:34 24 essential patents, is that the Plaintiffs' five patents are
01:36:39 25 truly standards essential patents to the LTE standard.

01:36:41 1 Q. Thank you.

01:36:41 2 A. You're welcome.

01:36:44 3 THE COURT: You pass the witness, counsel?

01:36:48 4 MS. PETERSEN: Yes, pass the witness.

01:36:51 5 THE COURT: Cross-examination by the Defendant.

01:37:09 6 Proceed when you're ready, Ms. Smith.

01:37:12 7 MS. SMITH: Thank you, Your Honor.

01:37:13 8 Excuse me.

01:37:13 9 CROSS-EXAMINATION

01:37:15 10 BY MS. SMITH:

01:37:15 11 Q. Good afternoon, Ms. Dwyer.

01:37:18 12 A. Good afternoon.

01:37:18 13 Q. We've not yet met. My name is Melissa Smith, and I
01:37:22 14 represent Apple. Nice to meet you.

01:37:24 15 A. Pleased to meet you, as well.

01:37:26 16 Q. Thank you.

01:37:26 17 Now, you don't -- you're not giving any
01:37:29 18 infringement opinions today, are you?

01:37:31 19 A. I'm giving opinions on essentiality.

01:37:34 20 Q. And you're not giving an infringement opinion today,
01:37:37 21 are you?

01:37:37 22 A. Essentiality opinions are essentially infringement
01:37:42 23 opinions as to standards essential patents, because a
01:37:46 24 product that uses the standard, uses the patents.

01:37:52 25 Q. You haven't looked at the Broadcom and Intel chips in

01:37:56 1 this case, have you?

01:37:57 2 A. I have not.

01:37:58 3 Q. And you haven't compared the claims in the patent to
01:38:02 4 the accused features of iPhones and iPads, have you?

01:38:05 5 A. Not in the products, no.

01:38:06 6 Q. Thank you.

01:38:07 7 Now, you said you have 25 years of wireless
01:38:10 8 communication experience, correct?

01:38:11 9 A. That's correct.

01:38:11 10 Q. And you previously worked at Research In Motion,
01:38:15 11 which -- which is now BlackBerry, I believe?

01:38:17 12 A. That's correct.

01:38:18 13 Q. You were there for about 12 years?

01:38:22 14 A. That's right.

01:38:22 15 Q. Okay. And you -- you mentioned that you participated
01:38:25 16 in these 3GPP meetings while working at BlackBerry,
01:38:29 17 correct?

01:38:29 18 A. Correct.

01:38:29 19 Q. And -- and BlackBerry actually designed and
01:38:32 20 manufactured smartphones like Apple, correct?

01:38:34 21 A. They did.

01:38:36 22 Q. You're listed as an inventor -- and I -- I wrote this
01:38:40 23 down -- I think, on 220 patents; is that correct?

01:38:44 24 A. Granted worldwide patents.

01:38:45 25 Q. And at BlackBerry, you -- you analyze actually the --

01:38:49 1 the technical merits of -- of standard essential patents,
01:38:52 2 correct?

01:38:52 3 A. I analyze the patents for their relation to the
01:38:56 4 standards.

01:38:56 5 Q. Okay. And you did this by analyzing and creating claim
01:39:03 6 charts of the alleged standard essential patents, didn't
01:39:05 7 you?

01:39:05 8 A. I have created claim charts, yes.

01:39:07 9 Q. Now -- and you have -- you certainly have a technical
01:39:13 10 expertise to create those claim charts, do you not?

01:39:16 11 A. Yes, I do.

01:39:18 12 Q. In this case, though, you didn't prepare any of those
01:39:23 13 claim charts that you just put up on -- put up on the
01:39:27 14 screen, did you?

01:39:28 15 A. No, I did not.

01:39:29 16 Q. You were actually provided those claim charts by
01:39:32 17 counsel?

01:39:32 18 A. That's correct.

01:39:34 19 Q. So when she put up the claim chart for the '284 patent,
01:39:40 20 you didn't prepare that claim chart?

01:39:42 21 A. No, I did not.

01:39:43 22 Q. You got that from counsel?

01:39:45 23 A. Correct.

01:39:46 24 Q. '332 claim chart, you just got that from counsel,
01:39:50 25 didn't you?

01:39:51 1 A. That's right.

01:39:51 2 Q. Same thing for the '557, the '774, and the '833,
01:39:55 3 correct?

01:39:55 4 A. Correct.

01:39:56 5 Q. And you actually -- you don't know who selected the
01:40:03 6 patents that are in any of those claim charts, do you?

01:40:06 7 A. No, I do not.

01:40:07 8 Q. And you don't know how the patents were selected to be
01:40:12 9 charted in this case; is that correct?

01:40:14 10 A. That's correct.

01:40:16 11 Q. You actually don't even know the criteria that was used
01:40:20 12 for selecting the patents for the claim charts to be
01:40:25 13 assert -- asserted in this case, do you?

01:40:26 14 A. No, I do not.

01:40:27 15 Q. Nor do you know whose job it was to select them?

01:40:31 16 A. That's correct.

01:40:32 17 Q. You don't know how long it took to prepare those claim
01:40:36 18 charts?

01:40:37 19 A. No, I do not.

01:40:37 20 Q. You don't know what was considered in preparing those
01:40:40 21 claim charts?

01:40:41 22 A. No, I don't.

01:40:43 23 Q. All you know is that counsel gave you those charts; is
01:40:49 24 that correct?

01:40:49 25 A. That's correct.

01:40:52 1 Q. Now, during your 25 years of working in the industry,
01:41:00 2 you actually hadn't reviewed any of the asserted patents in
01:41:03 3 this case until you did so under the direction of
01:41:07 4 Plaintiffs' counsel; is that correct?

01:41:09 5 A. That's correct.

01:41:12 6 Q. And Plaintiffs' counsel for firms -- two firms, the
01:41:18 7 McKool Smith firm and Irell & Man -- Manella -- excuse me;
01:41:20 8 is that correct?

01:41:20 9 A. Yes, that's correct.

01:41:21 10 Q. And since last year, you've spent a good deal of time
01:41:26 11 working for these two firms, haven't you?

01:41:29 12 A. I have.

01:41:29 13 Q. Actually, when you -- when you -- you go to your job
01:41:32 14 every day and you're on the job, you spend I believe you
01:41:36 15 testified between 40 and 50 percent of your time on the job
01:41:39 16 working for one of these two firms; is that correct?

01:41:42 17 A. Yes. It varies month-to-month but, on average, I'd say
01:41:46 18 that's correct.

01:41:46 19 Q. It's probably correct this month, leading up to trial,
01:41:50 20 wasn't it?

01:41:51 21 A. Yes, I would say.

01:41:52 22 Q. And you and your consulting company have billed, I
01:41:56 23 believe, \$380,000 since working on this litigation; is that
01:42:02 24 correct?

01:42:02 25 A. That sounds about right.

01:42:03 1 Q. Let's talk a little bit about the process of
01:42:09 2 determining whether or not a patent is actually essential.
01:42:12 3 Now, you'd agree that it'd take at least an hour
01:42:19 4 to assess whether or not the claims of one patent was even
01:42:23 5 relevant to the LTE standard, wouldn't you?
01:42:26 6 A. I would expect much more than that.
01:42:29 7 Q. Well, if you thought that there was a probability that
01:42:32 8 the claims might map to the standard, you'd want to chart
01:42:36 9 it, would you not?
01:42:37 10 A. That would be the next step, yes.
01:42:38 11 Q. And that claim chart would need to test each and every
01:42:43 12 word of the element, correct?
01:42:45 13 A. Yes, each and every word of the element needs to map,
01:42:48 14 that's correct.
01:42:48 15 Q. And each claim chart would take hours, several hours,
01:42:52 16 correct?
01:42:52 17 A. It very much depends on the claim, ma'am.
01:42:57 18 Q. You're aware of the ETSI database? You testified
01:43:02 19 regarding the ETSI -- ETSI database, correct?
01:43:04 20 A. Yes.
01:43:04 21 Q. And the ETSI database contains documents called IPR
01:43:11 22 declarations; is that correct?
01:43:12 23 A. Yes, it has records that contain the information from
01:43:16 24 those, if that's what you mean.
01:43:17 25 Q. That's what I mean.

01:43:20 1 A. Yes.

01:43:20 2 Q. Thank you, ma'am.

01:43:21 3 A. Uh-huh.

01:43:22 4 Q. And the purpose of the ETSI database is for companies
01:43:25 5 to declare things, patents and patent applications that may
01:43:31 6 be essential to the telecommunication standard?

01:43:33 7 A. I wouldn't agree that's the purpose, no.

01:43:35 8 Q. Well, companies can certainly declare their patents and
01:43:42 9 patent applications as essential to the telecommunication
01:43:45 10 standard and ETSI, can they not?

01:43:47 11 A. To the standards ETSI produces, yes, they can.

01:43:50 12 Q. Thank you.

01:43:50 13 And there's a lot of patents that are declared
01:43:53 14 essential to the -- to the LTE standard, correct?

01:43:56 15 A. Yes, there are.

01:43:57 16 Q. And you'd agree that there are a lot of patents that
01:44:02 17 are declared essential that actually aren't essential,
01:44:07 18 correct?

01:44:07 19 A. Yes, that's correct.

01:44:07 20 Q. You'd say, actually, that there are a great number of
01:44:12 21 declarations in the ETSI database which are not truly
01:44:18 22 essential at all, correct?

01:44:20 23 A. That's correct.

01:44:20 24 Q. There are actually over 195,000 of these declarations
01:44:28 25 by patent owners in the database, correct?

01:44:30 1 A. That sounds about right. There's some duplicates that
01:44:33 2 are in that number you've cited, though.

01:44:36 3 Q. Give or take, but ballpark of 195,000?

01:44:40 4 A. Without the duplicates, I think you're talking about
01:44:44 5 156,000, 200-ish.

01:44:46 6 Q. I'll accept that. Thank you, ma'am.

01:44:48 7 A. You're welcome.

01:44:49 8 Q. Now, let's work with your 156,000 dollar -- 56,000
01:44:54 9 number.

01:44:55 10 It's impractical for a company to make decisions
01:45:00 11 based on those IPR filings in the ETSI database, isn't it?

01:45:05 12 A. I would expect so.

01:45:07 13 Q. In fact, you'd say it's impossible for a company to
01:45:15 14 make decisions based on the IPRs filed in the ETSI
01:45:20 15 database, wouldn't you?

01:45:21 16 A. I guess it depends on what decisions you're taking.
01:45:26 17 Could you be specific?

01:45:27 18 Q. Well, I can be specific. Would it be reasonable for a
01:45:30 19 company to perform a check on every single essential
01:45:35 20 patent?

01:45:35 21 A. A check meaning what kind of check?

01:45:41 22 Q. To determine whether the declaration was a true
01:45:43 23 standard essential patent.

01:45:45 24 A. No, that wouldn't be practical.

01:45:46 25 Q. And ETSI itself doesn't perform any kind of check to

01:45:50 1 determine whether the patent or patent applications that
01:45:53 2 have been declared are truly essential, do they?

01:45:56 3 A. No, they don't.

01:45:57 4 Q. And you're not aware of any company that has actually
01:46:05 5 implemented a practice of reviewing all these declared
01:46:09 6 standard essential patents in the ETSI IPR database, are
01:46:12 7 you?

01:46:12 8 A. No, I'm not aware of any company that has done that or
01:46:15 9 would do it.

01:46:16 10 Q. And you'd agree that charting those 156 patents would
01:46:21 11 be an impractical undertaking for any company?

01:46:25 12 A. Yes, I agree with that.

01:46:30 13 Q. Now, you mentioned this -- this Internet -- Internet
01:46:35 14 database, the Innography database, during -- during your
01:46:40 15 direct, did you not?

01:46:41 16 A. Yes, I did.

01:46:41 17 Q. You also cited the Innography database in your expert
01:46:44 18 report?

01:46:45 19 A. Yes, I did.

01:46:46 20 Q. And in your report, you actually included a table of
01:46:50 21 data that you pulled from the Innography database, correct?

01:46:53 22 A. Correct.

01:46:57 23 Q. But -- but the Innography database, it's not your
01:47:00 24 creation, is it?

01:47:01 25 A. No, it's not.

01:47:01 1 Q. And it's certainly -- you referenced that Apple had
01:47:05 2 used the database. It's not Apple's creation, is it?

01:47:09 3 A. No, they're a subscriber.

01:47:10 4 Q. Okay. And before your work in this case, you'd
01:47:14 5 actually never -- never used the Innography database?

01:47:16 6 A. No, not before this case, no.

01:47:18 7 Q. So you got your log-on and password and access for this
01:47:22 8 case?

01:47:23 9 A. Yes.

01:47:23 10 Q. And, actually, you didn't rely upon the Innography
01:47:29 11 database in forming your -- your conclusions in this case,
01:47:32 12 did you?

01:47:32 13 A. No, I did not.

01:47:36 14 Q. You didn't perform any analysis based on the Innography
01:47:40 15 database, correct?

01:47:40 16 A. It's not the basis of my analysis, no.

01:47:44 17 Q. Okay. What you did is you got your password and you
01:47:47 18 got your log-on, and you paid whatever fee they have, and
01:47:51 19 you just repeated today what you saw on the website, didn't
01:47:55 20 you?

01:47:55 21 A. Yeah, those numbers are generated by Innography, that's
01:47:59 22 correct.

01:47:59 23 Q. And you have no idea whether Apple relies on a strength
01:48:05 24 indicator from the Innography database, do you?

01:48:07 25 A. I don't know what Apple uses the database for. I just

01:48:10 1 know they have it.

01:48:11 2 Q. Okay. Well, it'd be speculation to say what Apple does
01:48:15 3 or does not rely upon in the Innography database, wouldn't
01:48:17 4 it?

01:48:18 5 A. Yes, that's correct.

01:48:19 6 Q. You actually have no idea whether the Innography
01:48:25 7 database accounts for things like validity, do you?

01:48:28 8 A. I know that it does not.

01:48:33 9 Q. Now, you didn't come up with the factors for
01:48:37 10 determining the strength scores, did you?

01:48:38 11 A. It's not my database, so, no.

01:48:41 12 Q. And Apple didn't come up with the factors for
01:48:45 13 determining the strength score?

01:48:46 14 A. No, they did not.

01:48:48 15 Q. Are you -- were you aware that the strength score will
01:48:54 16 rise simply because a patent has been asserted in
01:48:57 17 litigation?

01:48:58 18 A. Yes. The strength score is based on a number of
01:49:01 19 factors, and litigation is one of them.

01:49:03 20 Q. All right. Well, let's explore that factor a little
01:49:06 21 bit.

01:49:07 22 So say a party sues another company for patent
01:49:11 23 infringement. Do you have that in your mind?

01:49:14 24 A. Uh-huh.

01:49:15 25 Q. But the company being sued doesn't infringe the patent;

01:49:18 1 you understand that?

01:49:19 2 A. Yes.

01:49:19 3 Q. The Innography strength score will actually rise --

01:49:25 4 they're going to get a high -- a higher score just because

01:49:28 5 they've been sued with that patent. Do you understand

01:49:30 6 that?

01:49:30 7 A. Yes, I do.

01:49:36 8 MS. SMITH: Now, Mr. Lee, if I can have Defense

01:49:41 9 Exhibit 8.2, please. There you go.

01:49:44 10 Q. (By Ms. Smith) You mentioned a minute ago that the

01:49:46 11 Innography database didn't consider invalidity; do you

01:49:49 12 remember that testimony?

01:49:50 13 A. Yes.

01:49:50 14 Q. Okay. The slide I'm directing your attention to here

01:49:56 15 references U.S. patent, I'm going to call it the '916; is

01:50:00 16 that fair?

01:50:00 17 A. Yes, I see that.

01:50:01 18 Q. You see the original assignee as LG?

01:50:04 19 A. Yes.

01:50:07 20 MS. PETERSEN: Objection, Your Honor.

01:50:07 21 THE COURT: What's your objection?

01:50:09 22 MS. PETERSEN: Objection, Your Honor. This is one

01:50:10 23 of the motion in limine rulings regarding patents not in

01:50:13 24 this action.

01:50:14 25 MS. SMITH: Your Honor, I believe that MIL was

01:50:16 1 withdrawn.

01:50:18 2 THE COURT: Which specific -- specific MIL order
01:50:20 3 are you talking about, Ms. Petersen?

01:50:23 4 MS. SMITH: I think it's 7.

01:50:26 5 THE COURT: It's her objection. Let me hear from
01:50:29 6 her.

01:50:30 7 MS. SMITH: I apologize, Your Honor.

01:50:45 8 MS. PETERSEN: My apologies, Your Honor, this
01:50:49 9 relates to Apple's Motion in Limine No. 1 regarding patents
01:50:54 10 litigated in a previous case.

01:50:56 11 MS. SMITH: To my knowledge, this has not been
01:50:58 12 litigated in a prior case, Your Honor.

01:51:00 13 THE COURT: I took this to be a hypothetical.

01:51:02 14 MS. SMITH: It was, Your Honor.

01:51:03 15 THE COURT: That being the case, I'll overrule the
01:51:05 16 objection.

01:51:06 17 And if we're talking about a real lawsuit
01:51:12 18 somewhere else, that's different. But my understanding is
01:51:15 19 this is an example only.

01:51:17 20 MS. SMITH: So far, Your Honor.

01:51:19 21 THE COURT: Well, we'll continue to watch it.
01:51:22 22 Let's continue.

01:51:23 23 MS. SMITH: Thank you, Your Honor.

01:51:24 24 Q. (By Ms. Smith) Ms. Dwyer, would it surprise you -- you
01:51:29 25 saw that score -- that strength score of 90 to a hundred

01:51:33 1 percent, didn't you?

01:51:34 2 A. I do.

01:51:35 3 Q. And I heard you say you have three children, correct?

01:51:35 4 A. That's correct.

01:51:36 5 Q. And that's an A-plus in anyone's book, right?

01:51:36 6 A. Uh-huh.

01:51:38 7 Q. Okay.

01:51:38 8 THE COURT: Just a minute. Ms. Dwyer, that's
01:51:40 9 about the third time you've said uh-huh. You'll need to
01:51:44 10 say yes or no so it's clear in the record and not just a
01:51:48 11 non-verbalized response. Okay?

01:51:48 12 THE WITNESS: Apologies, Your Honor.

01:51:50 13 THE COURT: All right. Let's continue.

01:51:52 14 Q. (By Ms. Smith) Would it surprise you to learn that
01:51:54 15 this patent with the A-plus, 90 to 100 percentile rank on
01:52:00 16 Innography, was actually ruled to be invalid in 2017?

01:52:04 17 MS. PETERSEN: Objection, Your Honor. I believe
01:52:05 18 we're getting into something that is concerning a
01:52:08 19 litigation that was another action not this case.

01:52:13 20 MS. SMITH: Your Honor, I -- I -- my next question
01:52:15 21 was to ask for Your Honor's leave to approach on a MIL.
01:52:20 22 I'm not there yet, but my next question gets there.

01:52:26 23 THE COURT: Well, if you're going to -- if you're
01:52:28 24 going to ask leave to address the Court outside the jury's
01:52:34 25 presence, I'll send them out now, and we'll get to the

01:52:36 1 bottom of it now.

01:52:36 2 MS. SMITH: Thank you, Your Honor.

01:52:37 3 THE COURT: Ladies and gentlemen of the jury,
01:52:38 4 obviously, I'm going to need to take this up outside your
01:52:40 5 presence. Please step into the jury room.

01:52:42 6 Leave your notebooks in your chairs, if you will.
01:52:45 7 Don't discuss the case with each other. And I expect this
01:52:49 8 to be short, so I hope to have you back in here in just a
01:52:49 9 couple of minutes.

01:52:52 10 With that, the jury is excused to the jury room.

01:52:55 11 COURT SECURITY OFFICER: All rise.

01:52:57 12 (Jury out.)

01:52:57 13 THE COURT: All right. Be seated.

01:53:16 14 Ms. Petersen, let me have the basis of your
01:53:20 15 objection, please.

01:53:20 16 MS. PETERSEN: Yes, Your Honor. This -- may I
01:53:23 17 approach the podium, Your Honor?

01:53:25 18 THE COURT: That's fine.

01:53:40 19 Now that Mr. Sheasby's told you what to tell me,
01:53:42 20 why don't you make your objection.

01:53:44 21 MS. PETERSEN: Your Honor, this patent is
01:53:46 22 regarding and related to a case involving PanOptis and
01:53:51 23 Huawei. And this was something that was expressly told by
01:53:54 24 the Court to Apple to not start getting into these types of
01:53:57 25 matters regarding invalidation of patents that are not in

01:54:00 1 this case.

01:54:02 2 THE COURT: What's your response, Ms. Smith?

01:54:06 3 MS. SMITH: This patent actually, to my knowledge,
01:54:08 4 is not involved in any case. I pulled an example of a
01:54:12 5 patent that had been invalidated randomly and out of the LG
01:54:17 6 pile to get the -- to -- to test the reliability of the
01:54:22 7 ranking system on the Innography database. I have
01:54:25 8 absolutely no desire to go into the details of any
01:54:27 9 litigation.

01:54:28 10 What I had planned to do is hand the witness the
01:54:33 11 PTAB order and ask her if she sees that it was invalidated,
01:54:37 12 and move along. It's an example. It's hypothetical. It
01:54:41 13 has nothing to do with the Huawei litigation, to my
01:54:44 14 knowledge.

01:54:48 15 So I would show the witness the document and ask
01:54:50 16 her if the patent had been invalidated. And, again, this
01:54:54 17 is just a sample patent that I've pulled to test the
01:54:58 18 reliability of the Innography database that she's
01:55:01 19 testifying as to.

01:55:04 20 THE COURT: What's your reply, Ms. Petersen?

01:55:06 21 MS. PETERSEN: Your Honor, any invalidation of
01:55:09 22 this patent would be a case and an outside action, and,
01:55:16 23 therefore, based on the Court's motion in limine ruling, it
01:55:20 24 should not come into this case. It will be unduly
01:55:23 25 prejudicial and is not probative of the issue.

01:55:31 1 MS. SMITH: Your Honor, I think that the MIL --
01:55:33 2 there was a MIL order that said we could not refer to
01:55:35 3 third-party patents. That was withdrawn by the Plaintiff.

01:55:39 4 There's an order that I can't make reference to
01:55:42 5 court proceedings and things of that nature. All I want to
01:55:46 6 do is hand the witness a document and ask her if the patent
01:55:48 7 was invalidated. No further reference to any proceeding,
01:55:51 8 any ruling, any cause number, anything at all.

01:55:57 9 THE COURT: I think, Ms. Smith, what you should do
01:55:59 10 is ask the witness to assume that the patent has been
01:56:02 11 invalidated and not go into how or why or where or under
01:56:10 12 what authority, and make that a -- make that a condition or
01:56:13 13 predicate of your question.

01:56:14 14 MS. SMITH: Okay.

01:56:14 15 THE COURT: And you should be able to do what
01:56:17 16 you're trying to accomplish without getting into a
01:56:24 17 violation of the MIL.

01:56:26 18 MS. SMITH: Thank you, Your Honor. Understood.
01:56:27 19 We shouldn't.

01:56:27 20 MS. PETERSEN: Your Honor, would it be possible to
01:56:29 21 see the IPR order regarding the --

01:56:31 22 THE COURT: Not if it's not going to be used with
01:56:33 23 the witness, and I don't think it's going to be used with
01:56:35 24 the witness.

01:56:35 25 MS. SMITH: It's not, Your Honor.

01:56:42 1 MS. PETERSEN: Okay.

01:56:42 2 THE COURT: Let's -- go ahead, Ms. Petersen.

01:56:44 3 MS. PETERSEN: My understanding then is that this
01:56:46 4 is purely hypothetical, and she cannot state before the
01:56:49 5 jury that this has actually been invalidated.

01:56:51 6 THE COURT: If you think that the way it's
01:56:53 7 presented after I bring the jury back is a continuing
01:56:57 8 violation, you have the right to re-raise the same
01:56:59 9 objection.

01:57:03 10 MS. PETERSEN: Thank you, Your Honor.

01:57:04 11 THE COURT: Okay? All right.

01:57:08 12 MR. SHEASBY: Your Honor, I think there's been a
01:57:09 13 misrepresentation in the record. The only way the patents
01:57:12 14 have been subject to IPR is through lawsuits that have been
01:57:14 15 filed. And so I want to be very clear, I'm going -- we're
01:57:18 16 going to request a corrective instruction on this,
01:57:21 17 Your Honor. This is not appropriate.

01:57:22 18 THE COURT: Well, Mr. Sheasby, if you -- if you
01:57:25 19 need to take this witness, then Ms. Petersen needs to sit
01:57:28 20 down, and you need to take this witness. If she's the
01:57:31 21 lawyer with this witness, she's going to have to make the
01:57:33 22 arguments, and she's going to have to request whatever is
01:57:37 23 requested of the Court.

01:57:39 24 MR. SHEASBY: I understand, Your Honor.

01:57:40 25 THE COURT: I mean, this is getting ridiculous. I

01:57:44 1 can't hear Ms. Smith for you talking to Ms. Petersen
01:57:46 2 telling her what to argue to the Court. She's a very
01:57:49 3 capable lawyer, and you need to let her take this witness,
01:57:53 4 or if you don't have confidence in her, you need to take
01:57:56 5 the witness away from her.

01:57:57 6 But you're not going -- you're not going to -- let
01:58:04 7 me just say it this way. If you're going to be the lead
01:58:08 8 lawyer with a witness, you're going to be the lead lawyer
01:58:10 9 with a witness. If you're not, then the other lawyers in
01:58:14 10 this case are not puppets for you to act through, and
01:58:16 11 that's the way it's coming across to me.

01:58:18 12 And you're either going to have to let go and let
01:58:21 13 the other lawyers do what the other lawyers do, or you're
01:58:24 14 going to have to take control of them and let them sit down
01:58:26 15 and you take the witnesses. But you're not going to follow
01:58:31 16 every other lawyer on the Plaintiffs' team around through
01:58:33 17 this trial and whisper constantly in their ears as to what
01:58:39 18 to say, or during examination by the other counsel, stand
01:58:39 19 up, lean across the table, and lecture them on how to
01:58:43 20 prepare for the next go-round. That's just not
01:58:46 21 appropriate.

01:58:46 22 Now, I -- I have no problem with counsel
01:58:49 23 consulting with each other. I've done it. Every lawyer
01:58:52 24 does it. But this is way beyond that. And I thought we
01:58:56 25 had made that pretty clear when I sent the jury out

01:58:58 1 earlier. But, apparently, it continues to be a problem.
01:59:03 2 And I'm happy for you to take every witness in this case,
01:59:07 3 as long as they're yours from the beginning.

01:59:09 4 But I am not going to let lawyers tag team
01:59:13 5 witnesses. I won't let the Defense do it. I'm not going
01:59:15 6 to let the Plaintiffs do it. And, in effect, you are
01:59:20 7 tag-teaming every other Plaintiffs' lawyer in this case,
01:59:22 8 and that's just not -- that's just not appropriate. And
01:59:26 9 it's -- it's highly distractive to me and to the jury.

01:59:30 10 MR. SHEASBY: I understand, Your Honor.

01:59:31 11 THE COURT: If you're going to request a
01:59:34 12 corrective instruction or if the Plaintiff is going to
01:59:36 13 request a -- a corrective instruction, then I'll hear from
01:59:40 14 Ms. Petersen on it before I bring the jury in so I'll know
01:59:44 15 whether I'm going to grant it or deny it.

01:59:46 16 If that's not going to be requested, then let me
01:59:49 17 know, and I'll bring the jury in.

01:59:51 18 Do you have a request of the Court, Ms. Petersen?

01:59:54 19 MS. PETERSEN: Yes, Your Honor, we request a
01:59:56 20 corrective instruction.

01:59:58 21 THE COURT: Do you want to tell me what you're
02:00:02 22 requesting that I instruct the jury on to be corrective?

02:00:05 23 MS. PETERSEN: Yes, Your Honor. Would you like me
02:00:06 24 to approach the podium?

02:00:08 25 THE COURT: I can hear you fine.

02:00:09 1 MS. PETERSEN: Okay. We request that the jury --
02:00:14 2 that any --

02:00:16 3 THE COURT: They've not seen anything from the
02:00:18 4 PTAB.

02:00:18 5 MS. PETERSEN: Right.

02:00:19 6 THE COURT: They've not seen any order from any
02:00:22 7 other Court. I think we stopped this well before it got
02:00:25 8 there. And my understanding is Ms. Smith is going to
02:00:28 9 proceed, if she chooses to continue this line of
02:00:30 10 questioning, on a non--specific hypothetical basis.

02:00:34 11 She's going to ask the witness to assume for her
02:00:37 12 that there's been an invalidation without -- without
02:00:40 13 confirming that there actually has, or if there has, where
02:00:44 14 it came from. And if she does that, I have no problem with
02:00:47 15 that being a violation of the orders in limine.

02:00:50 16 MS. PETERSEN: Would it --

02:00:51 17 THE COURT: If she doesn't, then you can re-raise
02:00:53 18 your objection. But so far, there's not been anything for
02:00:55 19 the jury to be corrected on, in my view.

02:00:58 20 MS. PETERSEN: Okay. Would it be possible to
02:01:00 21 instruct the jury to understand that this is a hypothetical
02:01:03 22 question being posed to them?

02:01:04 23 THE COURT: Well, when it's posed as a
02:01:06 24 hypothetical question, if they don't get it, then maybe we
02:01:11 25 can do that. But as of right now, they haven't even heard

02:01:14 1 it posed as a hypothetical because they've been taken out
02:01:18 2 of the courtroom while we've had this discussion.

02:01:20 3 MS. PETERSEN: Okay.

02:01:20 4 THE COURT: So that hasn't happened yet.

02:01:22 5 MS. PETERSEN: All right. Thank you, Your Honor.

02:01:23 6 THE COURT: All right. Request for an
02:01:26 7 instructive -- a curative instruction from the Plaintiffs
02:01:27 8 is denied at this point. You have the right to reurge it
02:01:30 9 if you think going forward it's warranted by what actually
02:01:34 10 happens in the courtroom.

02:01:34 11 All right. Are you clear on the Court's guidance
02:01:37 12 as to how to -- how to avoid the violation of the order in
02:01:41 13 limine, Ms. Smith?

02:01:42 14 MS. SMITH: Yes, Your Honor.

02:01:43 15 THE COURT: Then let's bring in the jury, please.

02:01:45 16 COURT SECURITY OFFICER: All rise.

02:01:46 17 (Jury in.)

02:02:12 18 THE COURT: Thank you, ladies and gentlemen.

02:02:14 19 Please be seated.

02:02:14 20 All right. Ms. Smith, please continue with your
02:02:19 21 cross-examination, please.

02:02:22 22 MS. SMITH: Thank you, Your Honor.

02:02:25 23 Q. (By Ms. Smith) Ms. Dwyer, I am going to ask you to
02:02:28 24 assume that -- that this patent is -- this hypothetical
02:02:33 25 patent that I have presented is invalid.

02:02:38 1 Under that hypothetical, this invalid patent would
02:02:41 2 actually rank higher than some of the asserted patents,
02:02:48 3 wouldn't it?

02:02:48 4 A. With this percentile, it would, yes.

02:02:51 5 Q. And you're not aware of any process or procedure at
02:02:58 6 Innography for -- for going through and sorting through
02:03:01 7 that big database of 156,000 patents every day to determine
02:03:06 8 which patents are still valid and which are not, are you?

02:03:09 9 A. No. Patents have a presumption of validity until
02:03:13 10 that's been proven wrong.

02:03:16 11 Q. You didn't look at any other portfolios of patents in
02:03:22 12 the Innography -- Innography database, did you?

02:03:25 13 A. No, I did not.

02:03:26 14 Q. And you actually have no idea whether all declared
02:03:34 15 essential patents have an average strength rating of 90
02:03:38 16 percent or above or high marks?

02:03:41 17 A. Actually, I know they do not.

02:03:44 18 Q. But you have no idea where other families rank because
02:03:47 19 you didn't look at them, correct?

02:03:49 20 A. I looked at a number of families that are owned by the
02:03:53 21 Plaintiff.

02:03:53 22 Q. Aside from those owned by the Plaintiff, ma'am?

02:03:57 23 A. I've not looked at others, no.

02:04:00 24 Q. Thank you.

02:04:00 25 And you actually didn't look, aside from the

02:04:03 1 Plaintiff, at any other standard essential patents on the
02:04:08 2 Innography database, did you?
02:04:08 3 A. No, I have not.
02:04:11 4 Q. And you didn't find it practical to assess every one of
02:04:16 5 the 6,000 patent families declared essential to LTE -- LTE
02:04:20 6 on the Innography database, did you?
02:04:21 7 A. No, I did not.
02:04:33 8 Q. And, ma'am, one last question. You're -- you're an
02:04:43 9 engineer, correct?
02:04:43 10 A. Yes, I am.
02:04:44 11 Q. And you never -- you haven't taken a look at the
02:04:47 12 Qualcomm or Intel chips, have you?
02:04:48 13 A. No. I've built products with them, though.
02:04:53 14 Q. And you haven't looked at the source code involved in
02:04:55 15 this case, have you?
02:04:56 16 A. I have not, no.
02:04:58 17 Q. Thank you, ma'am.
02:04:59 18 A. You're welcome.
02:04:59 19 MS. SMITH: Your Honor, I'll pass the witness.
02:05:01 20 THE COURT: Is there redirect, Ms. Petersen?
02:05:04 21 MS. PETERSEN: Briefly, Your Honor.
02:05:06 22 THE COURT: Please proceed.
02:05:06 23 REDIRECT EXAMINATION
02:05:08 24 BY MS. PETERSEN:
02:05:08 25 Q. Ms. Dwyer, what was your job in this case?

02:05:19 1 A. My job was to review the patents-in-suit and to
02:05:24 2 determine if they were truly standards essential patents to
02:05:28 3 the LTE standard from the perspective of somebody who's
02:05:32 4 been at the meetings and attended them.

02:05:34 5 Q. And could you please remind us of your conclusion that
02:05:37 6 you reached?

02:05:37 7 A. I concluded, after reviewing the patents and their
02:05:40 8 claim charts, that they are truly standards essential
02:05:43 9 patents to the LTE standard.

02:05:44 10 Q. And Ms. Smith addressed the ETSI declaration process.
02:05:54 11 Why do companies submit declarations to ETSI?

02:05:58 12 A. So, as I mentioned, what that essentially is, is a
02:06:03 13 database of irrevocable promises.

02:06:06 14 And so ETSI asks anybody who might have a patent
02:06:10 15 that is essential to the standard to make that promise that
02:06:13 16 they will license it so that the standard itself won't be
02:06:17 17 blocked and that people will be able to make products off
02:06:19 18 the standard, because it would be an incredibly bad
02:06:24 19 situation for a standards body to publish a standard that
02:06:27 20 was then blocked because there was somebody who owned a
02:06:30 21 patent who wouldn't license it.

02:06:32 22 So that's what the declaration process is all
02:06:34 23 about. It's about companies making a promise that they
02:06:39 24 can't withdraw; that they'll license those patents.

02:06:40 25 Q. Ms. Smith also touched on companies and their ability

02:06:44 1 to examine patents and declarations within the ETSI
02:06:48 2 database. Could you please explain whether there are tools
02:06:53 3 to examine these types of patents and declarations?
02:06:56 4 A. There are definitely tools to examine them.
02:07:00 5 Innography, of course, is one. Innography does a lot of
02:07:01 6 things, but you can certainly pull all sorts of reports on
02:07:07 7 standards essential patents, you can gather up reports by
02:07:09 8 who owns them, by the inventors. There's a number of
02:07:13 9 things that you can do related to standards essential
02:07:15 10 patents with Innography.
02:07:16 11 Q. Why did you use Innography?
02:07:17 12 A. I used it because Apple used it.
02:07:20 13 Q. And how did Innography inform your independent
02:07:25 14 examination of the claim charts?
02:07:29 15 A. Well, it didn't. I examined the claim charts on the
02:07:31 16 merits of the charts themselves and on what they taught me,
02:07:35 17 and I examined them for their truthfulness. It didn't have
02:07:38 18 anything to do with Innography, that examination.
02:07:41 19 Q. And did Innography do anything to support your opinion?
02:07:43 20 A. No, it did not.
02:07:45 21 Q. Could you please explain whether these scores informed
02:07:54 22 any basis of your opinion regarding their relation to LTE
02:07:59 23 and the standard?
02:08:00 24 A. No, they did not. I'm very familiar with the LTE
02:08:04 25 standards and the technology in them, and I understand

02:08:07 1 these patents very well, and my opinion on the strength of
02:08:09 2 the patents is based on that knowledge, not on the
02:08:12 3 Innography database.

02:08:12 4 Q. And could you remind us of the types of scores these
02:08:18 5 patents received in the Innography database?

02:08:19 6 A. The patents-in-suit received scores from 70 percent to
02:08:22 7 92 percent.

02:08:24 8 Q. Thank you.

02:08:25 9 MS. PETERSEN: No further questions.

02:08:27 10 A. You're welcome.

02:08:28 11 THE COURT: Further cross-examination, Ms. Smith?

02:08:31 12 MS. SMITH: One question, Your Honor.

02:08:31 13 RECROSS-EXAMINATION

02:08:35 14 BY MS. SMITH:

02:08:35 15 Q. Ms. Dwyer, you never -- you never checked the Qualcomm
02:08:38 16 or the Intel chips to see if they actually use the five
02:08:42 17 patents in this case, did you?

02:08:43 18 A. No, I did not.

02:08:44 19 Q. Thank you, ma'am.

02:08:45 20 A. You're welcome.

02:08:46 21 MS. SMITH: Pass the witness, Your Honor.

02:08:47 22 THE COURT: Any additional direct?

02:08:50 23 MS. PETERSEN: No, Your Honor.

02:08:51 24 THE COURT: You may step down, Ms. Dwyer.

02:08:54 25 THE WITNESS: Thank you very much, Your Honor.

02:08:55 1 THE COURT: You're quite welcome.

02:09:02 2 MS. PETERSEN: Your Honor, may the witness be
02:09:03 3 excused?

02:09:04 4 THE COURT: Is there any objection?

02:09:05 5 MS. SMITH: No, Your Honor.

02:09:06 6 THE COURT: The witness is excused.

02:09:08 7 Plaintiff, call your next witness.

02:09:12 8 MR. SHEASBY: Your Honor, Plaintiffs call
02:09:16 9 Mr. Rodermund, Apple's expert, by video.

02:09:18 10 THE COURT: By deposition?

02:09:19 11 MR. SHEASBY: Yes, sir.

02:09:20 12 THE COURT: How long do you expect the witness by
02:09:21 13 deposition to be?

02:09:22 14 MR. SHEASBY: I believe it's 12 minutes,
02:09:25 15 Your Honor.

02:09:25 16 THE COURT: All right. Do you have an allocation
02:09:26 17 of time for the Court?

02:09:28 18 MR. SHEASBY: We do, Your Honor. It is actually 9
02:09:35 19 minutes, and the allocation is 6 minutes, 59 seconds for
02:09:41 20 PanOptis and 2 minutes, 33 seconds for Apple.

02:09:44 21 THE COURT: Thank you.

02:09:44 22 Please proceed with the witness by deposition.

02:09:47 23 (Videoclip played.)

02:09:50 24 QUESTION: Mr. Rodermund, do you have a copy of
02:10:01 25 your report in front of you?

02:10:05 1 ANSWER: Yes, I do.

02:10:06 2 QUESTION: All the report -- all the words in the
02:10:08 3 report are yours; is that correct?

02:10:10 4 ANSWER: That's correct.

02:10:12 5 QUESTION: Do you know of any Apple or Samsung
02:10:15 6 devices that are sold in Europe that don't implement the
02:10:19 7 LTE standards?

02:10:24 8 ANSWER: I'm not aware of any, but I haven't
02:10:26 9 looked at the whole portfolio of devices.

02:10:31 10 QUESTION: The new iPhone X and above implement
02:10:37 11 the LT -- LTE standards, correct?

02:10:40 12 ANSWER: I believe so.

02:10:41 13 QUESTION: Why don't you go ahead and open
02:10:43 14 Exhibits 3 and Exhibit 4.

02:10:53 15 ANSWER: There's no document named Exhibit 4.

02:10:56 16 QUESTION: Why don't you refresh.

02:10:59 17 ANSWER: Oh, yes, now.

02:11:02 18 QUESTION: Let me know when you've looked through
02:11:05 19 them.

02:11:05 20 ANSWER: I've had a brief look, yes.

02:11:07 21 QUESTION: Exhibit 3 and Exhibit 4 indicate that
02:11:14 22 the most recent Apple and Samsung devices implement the LTE
02:11:21 23 standards, correct?

02:11:21 24 ANSWER: Yes, that's what it says in these
02:11:26 25 documents.

02:11:28 1 QUESTION: Okay. So let me ask you my next
02:11:31 2 question. Do you see at certification is a series of what
02:11:39 3 you described as test cases; is that correct?

02:11:46 4 ANSWER: Yes.

02:11:47 5 QUESTION: Okay. Let me ask you my next question,
02:11:49 6 which is that, if a patent is essential to the LTE
02:11:57 7 standard, that would mean that its use was necessary to
02:12:07 8 comply with the LTE standard, correct? It was truly
02:12:10 9 essential.

02:12:11 10 ANSWER: Well, it depends. The standard defines
02:12:15 11 how the devices should behave at various interfaces to
02:12:21 12 ensure interoperability. And so it's important that the
02:12:31 13 communication which comes out of the device is -- is
02:12:35 14 correct and is according to what's defined in the standard.

02:12:39 15 QUESTION: What's the def -- definition of an
02:12:44 16 essential patent?

02:12:51 17 ANSWER: There is a definition in the ETSI IPR
02:12:54 18 policy, which says that -- I have to load it up, actually,
02:13:01 19 but that you have to be product compliant if the standard
02:13:13 20 you're, you have to -- you -- you should use the -- the
02:13:22 21 essential patents along these lines.

02:13:25 22 QUESTION: An essential patent for ETSI is a
02:13:27 23 patent that has to be implemented in order to comply with
02:13:31 24 the LTE specification, correct?

02:13:33 25 ANSWER: Well, there are also parts of the LTE

02:13:41 1 specification which are left for -- for implementation.

02:13:50 2 So it's not necessarily described how you achieve
02:13:57 3 a certain desired ETSI interface. So there are also
02:14:07 4 different options to choose from the various possibility
02:14:12 5 included.

02:14:12 6 So a device -- certain device definitely does not
02:14:20 7 have to implement all essential patents which are in the
02:14:26 8 LTE standard.

02:14:27 9 QUESTION: Let me ask it this way: In order for a
02:14:32 10 device -- if -- if a patent is essential to the LTE
02:14:34 11 standard, it's necessary for interoperability, fair?

02:14:37 12 ANSWER: It depends. So there are also patents
02:14:45 13 which are essential which -- which are only becoming
02:14:49 14 essential if you're actually implementing a specific
02:14:56 15 function.

02:14:56 16 So the device vendors, also network equipment
02:15:00 17 vendors, they are free -- in some sense, they have some
02:15:05 18 freedom to choose specific functions. Not only the
02:15:08 19 frequency bandwidth support, but there are other functions
02:15:13 20 which are -- of which they can, for example, choose
02:15:16 21 different options.

02:15:16 22 So a device does not have to implement all
02:15:20 23 essential patents to be compliant with the standard.

02:15:25 24 QUESTION: So I've marked as the next exhibit in
02:15:29 25 order Exhibit 21. Let me know when you get this.

02:15:32 1 ANSWER: Okay. So I have it open.

02:15:37 2 QUESTION: You'll see it says: With LTE iPhone 5
02:15:42 3 and later, you can browse the web, stream content, or
02:15:47 4 download apps and games at blazing-fast speeds. Do you see
02:15:51 5 that, sir?

02:15:52 6 ANSWER: Yes.

02:15:52 7 QUESTION: For a list of carriers that have other
02:15:55 8 certified LTE networks and iPhone, refer to the chart
02:15:58 9 below. Do you see that, sir?

02:15:59 10 ANSWER: Yes.

02:16:00 11 QUESTION: Does this refresh your recollection
02:16:03 12 that iPhones, of iPhone 5 and later, practice the LTE
02:16:16 13 standard?

02:16:17 14 ANSWER: That's the impression I get from this
02:16:19 15 document, yes.

02:16:20 16 QUESTION: Do you have any basis for disputing
02:16:23 17 that?

02:16:23 18 ANSWER: I don't dispute that the iPhone 5 and
02:16:35 19 later supports LTE technology.

02:16:39 20 ATTORNEY: Can I get that question and answer read
02:16:42 21 back, Madam Court Reporter?

02:16:52 22 Question: Do you have any basis for disputing
02:16:55 23 that?

02:16:56 24 Answer: I don't dispute that the iPhone 5 and
02:17:00 25 later supports the LTE technology.

02:17:03 1 QUESTION: Do you know of any iPhone 5 or later
02:17:09 2 device that does not implement the LTE standard?

02:17:11 3 ANSWER: I did not investigate this.

02:17:15 4 QUESTION: I'm just -- sitting here today, are you
02:17:17 5 aware of any?

02:17:18 6 ANSWER: Sir?

02:17:23 7 QUESTION: Sitting here today, are you aware of
02:17:25 8 any phone app -- any iPhone app to the iPhone 5 that
02:17:30 9 doesn't implement the LTE standard?

02:17:32 10 ANSWER: I'm not aware of any model, but I did not
02:17:35 11 have a look at all of the different models they have.

02:17:38 12 QUESTION: Okay. So let's look at the iPhone 6.
02:17:51 13 One second.

02:17:51 14 Okay. Look at Exhibit 22?

02:17:55 15 ANSWER: Okay.

02:17:56 16 QUESTION: Have you reviewed it?

02:17:57 17 ANSWER: Yeah, I opened it.

02:18:04 18 QUESTION: Have you reviewed it?

02:18:05 19 ANSWER: Not yet. Okay.

02:18:14 20 QUESTION: All right. Does this refresh your
02:18:15 21 recollection that the iPhone 6 practices the LTE standard?

02:18:18 22 ANSWER: Yes, it implements LTE technology.

02:18:22 23 QUESTION: Do you have any basis to contend that
02:18:27 24 the iPhone 6 doesn't practice the LTE standard?

02:18:32 25 Let me -- let me withdraw the question.

02:18:35 1 Go ahead, answer the question.

02:18:38 2 Let me withdraw it. Let me reask it.

02:18:41 3 This document indicates -- does this document
02:18:44 4 refresh your recollection that the iPhone 6 practices the
02:18:48 5 LTE standard?

02:18:49 6 ANSWER: Yes, the document mentions that the
02:18:53 7 iPhone operates in LTE networks.

02:18:57 8 QUESTION: Is the answer to my question yes, sir?

02:19:00 9 ANSWER: Yes, it practices the LTE standard.

02:19:02 10 QUESTION: Does this document refresh your
02:19:07 11 recollection that the iPhone 7 practices the LTE standard?

02:19:10 12 ANSWER: So, yes, the document shows that the
02:19:16 13 iPhone 7 supports the LTE standard. And as for the
02:19:21 14 previous models, it claims to operate in LTE networks, and
02:19:28 15 it's also an expansion in this case, which spans operation.

02:19:32 16 However, I have no knowledge about how and which
02:19:36 17 parts of the LTE standard have been implemented by this
02:19:39 18 model.

02:19:40 19 QUESTION: It's enough for it to be able to
02:19:42 20 communicate on the LTE networks in the United States,
02:19:48 21 correct?

02:19:48 22 ANSWER: That's what the document is mentioning,
02:19:55 23 that it's operating in the LTE networks in the United
02:19:57 24 States.

02:19:59 25 (Videoclip ends.)

02:20:02 1 THE COURT: Does that complete this witness by
02:20:04 2 deposition?

02:20:04 3 MR. SHEASBY: It does, Your Honor.

02:20:07 4 THE COURT: Please call your next witness,
02:20:09 5 counsel.

02:20:09 6 MR. SHEASBY: Your Honor, for the next witness,
02:20:13 7 we're going to need to seal the courtroom --

02:20:15 8 THE COURT: Tell me who your next witness is.

02:20:18 9 MR. SHEASBY: Our next witness is Ms. Jayna Whitt,
02:20:21 10 an Apple lawyer.

02:20:23 11 THE COURT: And is this by deposition or live?

02:20:26 12 MR. SHEASBY: It is, Your Honor, it's deposition.

02:20:28 13 THE COURT: Then before this witness is presented
02:20:31 14 by deposition, at the request of Plaintiffs' counsel, I'll
02:20:35 15 order the courtroom sealed. All persons present not
02:20:37 16 subject to the protective order in this case, or I assume
02:20:43 17 aligned with the Defendant because it's the Defendant's
02:20:46 18 proprietary information, are ordered to excuse themselves
02:20:51 19 and remain outside the courtroom until it's unsealed.

02:20:54 20 (Courtroom sealed.)

02:20:54 21 (This portion of the transcript is sealed
02:20:54 22 and filed under separate cover as

02:35:23 23 Sealed Portion No. 6.)

02:35:23 24 (Courtroom unsealed.)

02:35:24 25 THE COURT: We've been back from lunch

02:35:28 1 approximately an hour and a half. We're going to take a
02:35:31 2 short recess before we begin with this next witness.

02:35:34 3 Ladies and gentlemen of the jury, if you'll just
02:35:36 4 close your notebooks and leave them in your chairs, we'll
02:35:39 5 be back in here shortly to continue with the next
02:35:42 6 Plaintiffs' witness. Follow all my instructions, including
02:35:46 7 not to discuss the case with anyone, including yourselves.
02:35:49 8 And, again, I hope this will be relatively short.

02:35:52 9 The jury is excused for recess at this time.

02:35:54 10 COURT SECURITY OFFICER: All rise.

02:35:56 11 (Jury in.)

02:36:36 12 (Recess.)

02:51:16 13 COURT SECURITY OFFICER: All rise.

02:51:17 14 THE COURT: Be seated, please.

02:51:20 15 All right. Plaintiff, are you prepared to call
02:51:33 16 your next witness?

02:51:34 17 MS. TRUELOVE: Yes, Your Honor, we are. We call
02:51:36 18 Dr. Rebbecca Reed-Arthurs.

02:51:38 19 THE COURT: All right. Let's bring the jury in,
02:51:40 20 please.

02:51:40 21 COURT SECURITY OFFICER: All rise.

02:52:14 22 (Jury in.)

02:52:14 23 THE COURT: Please be seated.

02:52:15 24 Plaintiff, call your next witness, please.

02:52:18 25 MS. TRUELOVE: Good afternoon, Your Honor. At

02:52:20 1 this time, we call Dr. Rebbecca Reed-Arthurs.

02:52:22 2 THE COURT: All right. If you'll come forward and
02:52:25 3 be sworn, please.

02:52:41 4 (Witness sworn.)

02:52:45 5 THE COURT: Please come around, have a seat at the
02:52:50 6 witness stand.

02:52:51 7 All right. Counsel, you may proceed.

02:53:03 8 MS. TRUELOVE: Thank you, Your Honor.

02:53:03 9 REBBECA REED-ARTHURS, PH.D., PLAINTIFFS' WITNESS, SWORN

02:53:03 10 DIRECT EXAMINATION

02:53:04 11 BY MS. TRUELOVE:

02:53:04 12 Q. Good afternoon, Doctor. Would you please state your
02:53:08 13 name for the record, and introduce yourself to the jury?

02:53:11 14 A. Good afternoon. My name is Rebbecca Reed-Arthurs.

02:53:14 15 Q. Why are you here today, Dr. Reed-Arthurs?

02:53:16 16 A. I've designed and analyzed a survey to measure how much
02:53:20 17 a change in LTE upload and download speed is worth to phone
02:53:28 18 buyers and to Apple.

02:53:28 19 Q. What did you ultimately determine from the survey that
02:53:31 20 you designed?

02:53:31 21 A. That consumers care about LTE upload and download
02:53:36 22 speeds; and that it will affect their purchase decisions
02:53:38 23 and ultimately Apple's profits.

02:53:38 24 Q. We're going to talk a lot at length about your survey,
02:53:41 25 but before we do that, why don't you just tell the jury a

02:53:43 1 little bit about yourself.

02:53:45 2 A. So I live in Hayward, California with my husband. We
02:53:49 3 were actually college sweethearts. We've been together for
02:53:53 4 20 years, and married for seven. I'm an economist by
02:53:55 5 trade. He and his brother run a small family business that
02:53:59 6 sells auto parts and ATV parts. We love being outside and
02:54:05 7 kayaking and hiking and watching my 22-month-old nephew
02:54:11 8 grow up.

02:54:11 9 Q. What do you do for a living, Doctor?

02:54:13 10 A. So for the last 10 years, I've worked at Berkeley
02:54:18 11 Research Group where I analyze economic issues, I calculate
02:54:21 12 economic damages, and I design and analyze consumer surveys
02:54:28 13 to measure the value of patented features like I'm doing
02:54:32 14 today.

02:54:32 15 Q. Doctor, tell the jury a little about your educational
02:54:36 16 background and your training in economics?

02:54:39 17 A. So I have a Bachelor's degree in economics from UC
02:54:39 18 Berkeley and Masters and Ph.D. degrees in economics from UC
02:54:42 19 Davis. There my fields of emphasis were industrial
02:54:45 20 organization, which is just the study of how firms compete,
02:54:49 21 and public economics, which relates to taxation,
02:54:53 22 regulation, and public policy.

02:54:54 23 Q. What specific experience do you have with surveys?

02:54:58 24 A. I've designed and analyzed surveys myself. And while
02:55:02 25 working with other economists, all told, I've spent

02:55:06 1 thousands of hours designing, analyzing, critiquing, and
02:55:09 2 writing up my findings related to surveys.

02:55:13 3 Q. What are some examples of the types of surveys that
02:55:15 4 you've designed or worked in connection with other people
02:55:17 5 on?

02:55:17 6 A. So, recently, I designed a survey to measure the value
02:55:24 7 of mobile payment technology in smartphones. I've also
02:55:27 8 worked with renowned economists like Professor Jeffrey
02:55:31 9 Prince, who is currently the chief economist for the FCC,
02:55:34 10 to design surveys to measure the value of patented features
02:55:37 11 in smartphones, like cellular technology, which is similar
02:55:40 12 to what we're dealing with here.

02:55:41 13 Q. What other survey experience do you have?

02:55:46 14 A. Well, so my dissertation research included work
02:55:50 15 related to issues of question framing. I have published on
02:55:54 16 these surveys and on valuing intellectual property in the
02:55:58 17 Handbook of Marketing Analytics and Intellectual Asset
02:56:05 18 Management magazine. And I've testified in court as an
02:56:09 19 expert on survey design and analysis.

02:56:09 20 Q. Are you being paid for your work on this case?

02:56:12 21 A. Berkeley Research Group is being paid \$550 an hour for
02:56:17 22 my time.

02:56:17 23 Q. Have you ever worked on a case against Apple before?

02:56:19 24 A. This is the first time I'm testifying in a case
02:56:22 25 against Apple, but I have worked on other Apple matters.

02:56:24 1 Q. How about PanOptis, have you worked for them before?

02:56:26 2 A. This is the first time I'm testifying on a case for
02:56:30 3 PanOptis, but I have worked on other Optis matters.

02:56:33 4 Q. How many hours have you spent working on this case to
02:56:37 5 date?

02:56:37 6 A. Approximately 300.

02:56:38 7 Q. Does what this jury ultimately decides have any
02:56:41 8 bearing on whether or not you get compensated for your
02:56:44 9 work?

02:56:44 10 A. No, not at all.

02:56:47 11 MS. TRUELOVE: Your Honor, at this time, we would
02:56:49 12 offer Dr. Reed-Arthurs as an expert on surveys and
02:56:53 13 economics.

02:56:53 14 THE COURT: Is there objection?

02:56:54 15 MS. SMITH: No objection, Your Honor.

02:56:55 16 THE COURT: All right. Then, without objection,
02:56:57 17 the Court will recognize this witness as an expert in those
02:57:02 18 designated fields.

02:57:02 19 Please proceed, Ms. Truelove.

02:57:05 20 MS. TRUELOVE: Thank you, Your Honor.

02:57:06 21 Q. (By Ms. Truelove) What kind of survey did you design
02:57:09 22 for this case to measure how much consumers and Apple value
02:57:14 23 improvement in LTE download and upload speeds?

02:57:15 24 A. I designed what's known as a choice-based conjoint, or
02:57:15 25 a CBC, survey.

02:57:28 1 Q. What is a choice-based conjoint, or CBC, survey?

02:57:28 2 A. So in a CBC survey, you're essentially presenting the
02:57:28 3 survey taker with a group of products like a set of
02:57:30 4 smartphones that each vary based on different features like
02:57:33 5 brand and price and screen size and others, and then you
02:57:36 6 ask someone which one -- which phone from amongst the set
02:57:40 7 they are most likely to purchase.

02:57:42 8 Q. Why do you use the CBC survey?

02:57:44 9 A. CBC surveys are a standard in business and economics
02:57:47 10 because it allows us to measure how people trade off
02:57:50 11 amongst features when they're choosing products.

02:57:52 12 Q. Who uses these types of CBC surveys?

02:57:56 13 A. Major companies use CBC surveys to help design
02:58:01 14 products, and economists use CBC surveys to help develop
02:58:05 15 patented features.

02:58:06 16 Q. Are you aware or do you know whether Apple has ever
02:58:09 17 used a CBC survey to value patented features?

02:58:12 18 A. Yes, Professor John Hauser from MIT has performed CBC
02:58:18 19 surveys to measure consumer demands for patented features
02:58:22 20 for Apple.

02:58:23 21 Q. Why is it necessary to conduct a CBC survey when
02:58:27 22 trying to determine how much a particular feature is worth
02:58:30 23 in the marketplace?

02:58:32 24 A. So a CBC survey allows us to disentangle or measure
02:58:36 25 consumer willingness to pay for just one feature of a

02:58:38 1 product, as opposed to all the other features of the
02:58:42 2 product.

02:58:42 3 Q. What do you mean by consumer willingness to pay?

02:58:46 4 THE COURT: Let me interrupt both of you for a
02:58:48 5 minute. If you would both slow down just a little bit, I
02:58:50 6 think it would be helpful to the jury, and I know it would
02:58:53 7 be helpful to the Court. All right.

02:58:54 8 MS. TRUELOVE: Certainly, Your Honor, thank you.

02:58:55 9 THE COURT: Please restate your question.

02:58:58 10 Q. (By Ms. Truelove) What do you mean by consumer
02:59:00 11 willingness to pay?

02:59:01 12 A. So consumer willingness to pay is just the maximum
02:59:06 13 amount someone is willing to pay in dollars and cents for
02:59:10 14 something.

02:59:10 15 Q. Why do you use a CBC survey to try and measure
02:59:12 16 consumer willingness to pay and, in this instance, for LTE
02:59:14 17 speed?

02:59:14 18 A. So when companies like Apple release products, they'll
02:59:20 19 often vary a lot of features at the same time. So, for
02:59:22 20 example, when they're changing LTE speeds, they might be
02:59:25 21 changing screen size and processor power and other
02:59:29 22 features. A CBC survey allows me to measure just the value
02:59:32 23 of the change in LTE speeds, apart from these other
02:59:36 24 changes.

02:59:36 25 Q. Can you walk us through an example as this relates to

02:59:39 1 Apple?

02:59:40 2 A. I can. So on this slide here, you can see Apple's
02:59:44 3 pricing pattern for some of its smartphones over time. You
02:59:47 4 can see that when it releases a new phone, it generally
02:59:51 5 drops the price of the old phone instead of raising the
02:59:55 6 price of the new phone.

02:59:56 7 For example, on the left-hand side here, you can
02:59:59 8 see that when Apple released the iPhone 5, which had LTE,
03:00:04 9 they dropped the price of the iPhone 4S, which did not have
03:00:09 10 LTE, by a hundred dollars.

03:00:10 11 Q. What does the fact that Apple released the iPhone 5 at
03:00:14 12 the same price as the 4S indicate, if anything, about the
03:00:18 13 value of the improvement of LTE speed?

03:00:20 14 A. That doesn't indicate anything.

03:00:22 15 Q. Why?

03:00:22 16 A. Because it's important to compare phones and prices at
03:00:27 17 the same period of time, that vertical line there, because
03:00:33 18 the features available on the market and people's
03:00:35 19 preferences for those features are going to change. The
03:00:37 20 hundred dollars is a better comparison.

03:00:39 21 Q. Can you just look at that hundred dollars and use the
03:00:43 22 difference in price to determine anything about willingness
03:00:47 23 to pay?

03:00:48 24 A. No.

03:00:48 25 Q. Why not?

03:00:49 1 A. Because at the same time Apple added LTE, they've also
03:00:53 2 changed other features like screen size and processor power
03:00:57 3 and camera quality.

03:00:58 4 Q. So how does the CBC survey let you account for the
03:01:03 5 change in multiple features that happen at the same time?

03:01:05 6 A. It essentially allows me to vary LTE speeds
03:01:09 7 independently from these other features.

03:01:10 8 Q. Has -- has Apple done its own marketing surveys
03:01:13 9 regarding consumer's opinions on the improvement of LTE
03:01:19 10 speed?

03:01:19 11 A. Yes.

03:01:19 12 Q. Have you reviewed any of their surveys in connection
03:01:23 13 with your work on this case?

03:01:24 14 A. I have.

03:01:25 15 MS. TRUELOVE: If we could look at PX-0374, the
03:01:29 16 next slide.

03:01:30 17 Q. (By Ms. Truelove) Is this an example of the type of
03:01:32 18 Apple survey that you reviewed?

03:01:34 19 A. It is, yes.

03:01:35 20 Q. And what do we see on this slide?

03:01:38 21 A. So on this slide, you can see that Apple surveyed
03:01:41 22 iPhone 5 buyers about what particular features they found
03:01:45 23 important. And we see that of people who wanted a
03:01:49 24 particular feature, 56 percent wanted LTE support and 46
03:01:53 25 percent wanted faster cellular connectivity.

03:01:55 1 Q. Can you use this survey to calculate willingness to
03:01:58 2 pay for increased LTE speed?

03:02:00 3 A. No.

03:02:01 4 Q. Why not?

03:02:02 5 A. Because the way Apple structured the survey, you
03:02:06 6 didn't have to make trade-offs between features and price.
03:02:10 7 Everybody would love to have the best phone with the best
03:02:13 8 features at the lowest price, but you rarely get it all.

03:02:17 9 Q. Why don't you just ask your survey takers or why
03:02:21 10 doesn't Apple just ask in their marketing surveys how much
03:02:23 11 somebody is willing to pay for a particular feature?

03:02:25 12 A. That approach is known as contingent valuation, and
03:02:29 13 asking people what they'll pay for one feature at a time,
03:02:34 14 has been shown to inflate the value. People will overstate
03:02:36 15 how much they're willing to pay.

03:02:37 16 Q. Turning your attention to the survey that you designed
03:02:41 17 in this case, can you explain to the jury the types of
03:02:44 18 choices you created for your survey takers?

03:02:46 19 A. So this slide just shows an illustration of the type
03:02:49 20 of choice set that a survey taker would have seen.

03:02:52 21 Q. What -- what are you trying to accomplish with what
03:02:55 22 we're seeing here on this slide?

03:02:57 23 A. I'm trying to just very roughly re-create the
03:03:01 24 experience of -- that someone would have if they, say,
03:03:04 25 walked into the AT&T store in Marshall and wanted to

03:03:06 1 purchase a phone.

03:03:07 2 Q. How does this choice set that we're looking at on this
03:03:10 3 slide replicate that shopping experience?

03:03:12 4 A. Well, you can see that we have several different
03:03:14 5 phones, and they each vary based on price and other
03:03:18 6 features. Someone walks into the store, they might see
03:03:21 7 such phones and decide which one they want.

03:03:23 8 Q. Are there any standards for how these choices should
03:03:28 9 look when you're designing a CBC survey?

03:03:31 10 A. There are.

03:03:31 11 Q. What are the standards for how these choices should
03:03:35 12 look?

03:03:35 13 A. So a few things. First, generally, you'll find that
03:03:40 14 CBC surveys have roughly six or seven features, and you'll
03:03:44 15 ask the survey taker to hold all the other features
03:03:48 16 constant.

03:03:48 17 For the features that you do include in the
03:03:50 18 survey, those can vary and will take different levels,
03:03:55 19 generally between 3 and 5, with price somewhat more.

03:03:58 20 Q. Why -- why do you only include a handful of product
03:04:01 21 features when we know and we've heard throughout the trial
03:04:04 22 that smartphones have dozens of features?

03:04:06 23 A. It's actually more reliable. If you include too many
03:04:09 24 features, it's easy for the survey takers to get tired or
03:04:14 25 fatigued or start taking shortcuts.

03:04:17 1 Q. So what features did you include in the survey that
03:04:20 2 you designed?

03:04:20 3 A. So you can see on the left-hand side here, I included
03:04:25 4 price, brand, screen size, camera resolution for the front
03:04:28 5 and back of the cameras, LTE speed, both upload and
03:04:33 6 download speed, storage, and battery life.

03:04:35 7 Q. And what levels did you allow these features to take?

03:04:37 8 A. The body of the table here shows examples of the range
03:04:41 9 of levels that I used.

03:04:42 10 Q. Why did you choose those particular levels for the
03:04:46 11 features that you used?

03:04:47 12 A. I selected them to span the levels that you might see
03:04:51 13 in the real-world market and to represent not just Apple's
03:04:55 14 products but also competing phone products and across
03:04:59 15 the -- the time frame that's relevant in this case.

03:05:01 16 Q. Where did you find people to take your survey?

03:05:04 17 A. I reached out to an experienced firm called ProdegeMR
03:05:09 18 to re-create the sample.

03:05:10 19 Q. And how many people ultimately took your survey?

03:05:14 20 A. 1512 people. And these are all people who have
03:05:18 21 purchased a smartphone in the last seven years.

03:05:21 22 Q. Is this enough people to say something about
03:05:24 23 smartphone owners in general?

03:05:25 24 A. Yes, absolutely.

03:05:26 25 Q. Why -- why is that?

03:05:27 1 A. It's very common in economics to use samples to draw
03:05:33 2 conclusions about broader populations. So, for example,
03:05:35 3 you might hear on the news consumer confidence numbers or
03:05:39 4 unemployment statistics. Those are very often based on
03:05:43 5 surveys.

03:05:43 6 Q. How did you ensure that your survey takers, the people
03:05:46 7 that took your survey, would be representative of
03:05:48 8 real-world smartphone purchasers?

03:05:51 9 A. So two things. First, ProdegeMR made sure that the
03:05:57 10 people who started the survey matched the general
03:05:59 11 demographic and regional distribution of people in the
03:06:03 12 United States. And then once I had the completed surveys,
03:06:06 13 I looked and made sure that the characteristics of the
03:06:08 14 people who finished, matched what I know about smartphone
03:06:11 15 owners in the U.S.

03:06:12 16 Q. What did each of the survey takers have to do for your
03:06:15 17 survey?

03:06:17 18 A. So, first, someone had to answer some basic background
03:06:20 19 questions, and then review descriptions of each of the
03:06:23 20 different features that I included in the survey.

03:06:25 21 Q. What did they do next?

03:06:27 22 A. Next they had to answer 10 different questions where
03:06:34 23 within each question, they had to choose from amongst four
03:06:37 24 different phones.

03:06:42 25 Q. Do you have or how did the choice set look in your

03:06:44 1 survey?

03:06:45 2 A. This next slide is an image of the actual choice set
03:06:49 3 that I would have included in the survey.

03:06:50 4 Q. So remind -- remind us, if you would, what it is you're
03:06:55 5 asking your survey takers to do as they work through this
03:06:59 6 question?

03:06:59 7 A. So, first, I asked them to think back to when they
03:07:02 8 purchased the last phone, and then review these phones
03:07:05 9 here. And holding everything else identical, so
03:07:09 10 anything -- any feature that's not included here constant,
03:07:12 11 choose which phone they like the best or they would be most
03:07:15 12 likely to purchase.

03:07:16 13 Q. And each of the 1512 people who took your survey
03:07:20 14 answered 10 questions?

03:07:22 15 A. Yes.

03:07:22 16 Q. Okay. Were the four choices included in each of the 10
03:07:27 17 questions the same for every person who took your survey?

03:07:29 18 A. No, they were not.

03:07:30 19 Q. Why not?

03:07:31 20 A. It's very standard conjoint methodology to create
03:07:36 21 thousands of different combinations of feature levels. By
03:07:40 22 using a lot of different levels, you can actually create
03:07:43 23 more precise estimates.

03:07:45 24 Q. Is it necessary that you create feature combinations
03:07:49 25 that correspond or actually mimic actual phones that you

03:07:54 1 could go out and purchase on the marketplace?

03:07:56 2 A. No, it's not.

03:07:57 3 Q. Why not?

03:07:58 4 A. Because the whole point of doing the surveys -- because
03:08:01 5 oftentimes smartphone makers will vary features in lockstep
03:08:05 6 with one another. By doing the survey, I can change and
03:08:09 7 move LTE speeds independently from these other features.

03:08:11 8 Q. Did you do anything to ensure that your survey takers
03:08:16 9 understood the seven features presented to them?

03:08:19 10 A. I did.

03:08:19 11 Q. What did you do?

03:08:21 12 A. So, first, everybody reviewed a description of each of
03:08:26 13 the features that was included in the survey.

03:08:27 14 Q. You're not a technical expert, correct?

03:08:29 15 A. No, I'm not.

03:08:30 16 Q. So to the extent that you needed input on technical
03:08:34 17 aspects of the feature descriptions that you created for
03:08:37 18 your survey, where did you get that from?

03:08:39 19 A. I relied on Professors Madisetti and Mahon.

03:08:45 20 Q. Can you show the jury an example of the LTE feature
03:08:48 21 description that you included in the survey?

03:08:50 22 A. Yes. This next slide here shows the LTE description.

03:08:53 23 Q. In walking through PX-2821, what did you do to ensure
03:09:00 24 that your survey takers understood you were talking about
03:09:04 25 LTE speed, as opposed to WiFi or any other cellular speed?

03:09:08 1 A. So I started by introducing LTE speed, and then I made
03:09:13 2 it clear that we're talking just about LTE and not to WiFi,
03:09:22 3 2G, 3G, or 5G. And then I explained what an upload speed
03:09:28 4 or download speed meant, and then provided examples that
03:09:31 5 help people translate their real-world experience in terms
03:09:35 6 of how long it takes to either upload a file, a photo to
03:09:40 7 Facebook, or to download a hundred megabyte file to their
03:09:43 8 phone, how long that actually takes at different LTE
03:09:46 9 speeds.

03:09:47 10 Q. Other than the technical input that you received, what
03:09:52 11 did you consider as you were designing this description
03:09:54 12 here for LTE upload and download speed?

03:09:57 13 A. I started by reviewing Apple's marketing materials.
03:10:02 14 And so on this slide, for example, you can see Apple was
03:10:07 15 describing LTE as -- in kind of generic marketing terms.
03:10:13 16 So, for example, ultra-fast wireless and blazing-fast
03:10:18 17 speeds.

03:10:18 18 Q. Did you have an opportunity to review any materials
03:10:20 19 from Apple that provided a more specific description of LTE
03:10:24 20 speed?

03:10:24 21 A. I did. So sometimes Apple will use the maximum
03:10:32 22 theoretical speed that a phone can go. So here you can see
03:10:36 23 up to 150 Mbps. And on this next slide, you can see up to
03:10:43 24 450 Mbps.

03:10:46 25 However, in the real world, phones rarely ever

03:10:49 1 achieve those speeds.

03:10:51 2 Q. Did you look at anything else other than Apple
03:10:54 3 marketing materials to inform how you created your
03:10:58 4 description for LTE upload and download speed?

03:11:01 5 A. I did, yes.

03:11:01 6 Q. What was that?

03:11:02 7 A. So I also looked at third-party review sites. And
03:11:06 8 they also emphasized LTE speeds. However, instead of using
03:11:10 9 the maximum speeds, they tended to actually do tests to see
03:11:15 10 how fast these phones went in the real world. So, for
03:11:19 11 example, on this next slide, you can see Apple's actual
03:11:24 12 achieved LTE speeds in iPhones.

03:11:27 13 Q. What did you conclude from the review of -- of the
03:11:30 14 materials that you've just walked through with the jury?

03:11:32 15 A. Two things. First, that both Apple and third-party
03:11:37 16 reviewers think that LTE speeds are relevant to people's
03:11:40 17 purchase decisions.

03:11:42 18 And, second, that it was going to be better to
03:11:45 19 create an LTE description that was centered around average
03:11:50 20 experience speeds that people see in the real world, as
03:11:54 21 opposed to Apple's theoretical maximums.

03:11:58 22 Q. Did you leave it at that, or did you do anything else
03:12:01 23 to ensure that those seven descriptions that you provided
03:12:04 24 for the features you included would be easily understood by
03:12:06 25 your survey takers?

03:12:07 1 A. I did.

03:12:08 2 Q. What did you do?

03:12:08 3 A. I conducted what's known as a focus group, which
03:12:13 4 basically means I brought in a small group of people and
03:12:17 5 had them take a paper version of my survey. And then we
03:12:19 6 talked about how they interpreted each of the features and
03:12:21 7 whether or not anything could be clearer or was
03:12:23 8 misunderstood.

03:12:24 9 Q. What was the feedback that you got back from your
03:12:27 10 focus group?

03:12:28 11 A. Generally, that the feature descriptions were clear,
03:12:32 12 and that the LTE example was very helpful.

03:12:35 13 Q. Do your survey takers need to understand what the LTE
03:12:41 14 speed is on their phone at any given time in order to be
03:12:43 15 able to take your survey?

03:12:44 16 A. No, they do not.

03:12:45 17 Q. Why not?

03:12:46 18 A. Well, so a couple of things. First, I included the
03:12:49 19 example to help people add context to the real-world
03:12:52 20 experiences. But also if you know that LTE speed isn't
03:12:57 21 really relevant to you, you're free to ignore the feature.
03:13:00 22 And if you know that you're frequently bothered by your LTE
03:13:04 23 speeds, you can just choose the fastest. That's fine.

03:13:08 24 Q. Don't -- don't people download a lot over WiFi? How
03:13:11 25 did you -- how did you account for that in your survey that

03:13:14 1 you designed?

03:13:16 2 A. Well, so some people will download over WiFi a lot.

03:13:19 3 Some people less so. And it's going to depend on the

03:13:22 4 person. They're going to know their usage patterns better

03:13:27 5 than I can, which is why I made it clear in my description

03:13:29 6 that it just relates to LTE speed and not to other

03:13:32 7 standards. And I reminded people of that later in the

03:13:36 8 survey.

03:13:36 9 Q. How do the survey takers' choices tell you anything

03:13:40 10 about willingness to pay?

03:13:42 11 A. So this next slide illustrates -- provides a basic

03:13:46 12 example. So here we have two phones that are identical,

03:13:50 13 except for screen size and price.

03:13:54 14 Now, if someone chooses Phone A, that means

03:13:56 15 they're willing to pay at least \$200.00 -- that's the

03:13:59 16 difference in the prices -- to go from a four-inch screen

03:14:03 17 to a 5.5-inch screen.

03:14:05 18 Q. So at the conclusion of your survey, you have 10

03:14:08 19 choices made by 15 -- 1512 people. What do you do with

03:14:12 20 that information?

03:14:13 21 A. So I can take all of those data points, and they each

03:14:19 22 contain comparisons kind of like this, and I can load that

03:14:24 23 data into a computer, and then using very standard economic

03:14:28 24 and statistical approaches, I can calculate an equation

03:14:30 25 that relates the phone that people chose to their prices

03:14:34 1 and the features of the phone.

03:14:35 2 Q. Now, are you doing all these calculations yourself?

03:14:38 3 A. No.

03:14:39 4 Q. What -- what's doing the calculations for you?

03:14:41 5 A. A computer. And, in particular, a certain statistical
03:14:45 6 software.

03:14:45 7 Q. Can you walk the jury through how the choices your
03:14:51 8 survey takers made are being processed by the computer with
03:14:54 9 the statistical software?

03:14:56 10 A. This next slide shows a simplified example.

03:15:02 11 So you can see that each of these dots -- you can
03:15:05 12 think of that as representing someone's phone choice. What
03:15:08 13 the computer is doing is trying to find the line or
03:15:11 14 equation that best fits this data. You can see here on the
03:15:16 15 screen in a moment that these red and green lines don't fit
03:15:19 16 very well.

03:15:19 17 What the computer is doing is searching for the
03:15:22 18 blue line that goes right through these data points. Once
03:15:25 19 we have that, we have the equation that we can use to
03:15:28 20 calculate willingness to pay.

03:15:31 21 However, what the computer is doing is actually
03:15:33 22 much more complicated because it's also controlling for
03:15:37 23 other phone features at the same time.

03:15:40 24 Q. What did you find when you applied this methodology to
03:15:43 25 the patents in this case?

03:15:44 1 A. So, for example, we heard earlier today from Professor
03:15:50 2 Madisetti that the '833 patent was associated with a
03:15:54 3 10.7 percent change in download speed.

03:15:56 4 Using this same general approach, I was able to
03:15:59 5 calculate that that percentage change in download speed
03:16:03 6 translates into a change of \$6.03 in willingness to pay.

03:16:08 7 Q. How do you know that all 1512 people who took your
03:16:12 8 survey took it seriously?

03:16:15 9 A. Well, so occasionally people don't take it quite as
03:16:20 10 seriously as we'd like.

03:16:21 11 So I went through all of the data and I removed
03:16:24 12 people who either sped through the survey, who were
03:16:29 13 interrupted in the middle, who failed to answer basic data
03:16:29 14 quality checks correctly and who answered all As or all Bs
03:16:34 15 or all Cs.

03:16:37 16 Once I dropped those people, I have what I like to
03:16:39 17 call my baseline sample, and that dropped willingness to
03:16:43 18 pay by a few cents.

03:16:45 19 Q. So you reran your analysis once you dropped those
03:16:49 20 people?

03:16:51 21 A. I did, yes.

03:16:51 22 Q. Once you had your baseline sample, did you do any
03:16:51 23 further analysis?

03:16:51 24 A. Yes, I did.

03:16:51 25 Q. What was the first thing that you looked at?

03:16:53 1 A. Well, so, first, we've been talking so far about the
03:16:57 2 willingness to pay of the average consumer. But if you're
03:17:00 3 going to calculate a change in profit, you need to focus in
03:17:03 4 on what's known as the marginal consumer.

03:17:07 5 Q. What's the marginal consumer?

03:17:08 6 A. A marginal consumer is just someone who is right on the
03:17:13 7 fence between choosing the phone that they actually
03:17:15 8 purchased versus choosing some other device or not buying a
03:17:18 9 device at all.

03:17:19 10 Those people are going to be more relevant to
03:17:23 11 Apple and other smartphone sellers' pricing decisions
03:17:28 12 because they're more likely to respond based on small
03:17:32 13 changes in price or feature sets.

03:17:33 14 Q. How did you determine who those marginal consumers were
03:17:37 15 in your survey?

03:17:38 16 A. So I just asked people to think back to when they
03:17:42 17 purchased their last device and whether or not they still
03:17:45 18 would have bought the same phone if it had been priced
03:17:49 19 10 percent higher. If they said no or maybe, they're more
03:17:53 20 likely to be the marginal consumers.

03:17:53 21 Q. So what did you do with that marginal consumer
03:17:56 22 information once you had it?

03:17:57 23 A. I reran my analysis again, and that dropped willingness
03:18:02 24 to pay a little bit further.

03:18:02 25 Q. Is there any way you can check your survey results

03:18:07 1 against real-world market prices?

03:18:09 2 A. In this case, yes.

03:18:10 3 Q. And how do you do that?

03:18:11 4 A. So Apple and Samsung actually price storage
03:18:17 5 independently from other features. You can just pay for an
03:18:22 6 upgrade in storage. And, on average, they charge almost
03:18:24 7 \$82 to double the storage in your phone.

03:18:27 8 Q. How does that let you check your survey against those
03:18:30 9 real-world market prices for storage?

03:18:32 10 A. I also included storage in my survey. And I found that
03:18:35 11 people were willing to pay just under a hundred dollars to
03:18:39 12 double the price of storage.

03:18:40 13 So my survey results were actually quite close to
03:18:43 14 Apple's real-world market pricing.

03:18:45 15 Q. Did you make any adjustments to your survey results
03:18:48 16 based on this analysis?

03:18:49 17 A. I did.

03:18:50 18 Q. What did you do?

03:18:51 19 A. So I calculated basically the ratio between those two
03:18:55 20 values, and then I used that to scale down my willingness
03:18:59 21 to pay for LTE.

03:19:00 22 Q. Did you make any other adjustments to willingness to
03:19:04 23 pay?

03:19:04 24 A. One more.

03:19:04 25 Q. What was that?

03:19:05 1 A. Apple generally will sell its phones to places like
03:19:10 2 Verizon or AT&T at a discount. So I also applied that
03:19:14 3 discount to the willingness to pay number.

03:19:16 4 Q. Do you have a slide that summarizes all the adjustments
03:19:18 5 you made to that initial willingness to pay number of
03:19:23 6 \$6.03?

03:19:23 7 A. I do. This is the slide.

03:19:24 8 Q. And -- and, in summary, what was your -- what did you
03:19:28 9 conclude the willingness would be to pay for the LTE speed,
03:19:32 10 increase in speed, upload and download, after you took out
03:19:36 11 all the adjustments?

03:19:37 12 A. So continuing with our example for the '833 patent,
03:19:41 13 that original \$6.03 translates into \$3.98 in willingness to
03:19:47 14 pay.

03:19:47 15 Q. So is this the amount of consumer willingness to pay
03:19:50 16 available for Apple to capture?

03:19:51 17 A. This is still will -- willingness to pay but not
03:19:57 18 profit.

03:19:57 19 Q. So how do you go about calculating a change in profit?

03:20:01 20 A. I started by analyzing Apple's actual financial data,
03:20:04 21 its revenue, and its costs. And I also analyzed the
03:20:09 22 structure of the smartphone market and how Apple competes
03:20:13 23 in that market.

03:20:14 24 I found that they offer a different iated product,
03:20:20 25 which basically means their phones aren't perfect

03:20:22 1 substitutes from other phones and that they're able to
03:20:25 2 price with market power, which basically just translates
03:20:28 3 into them having a downward sloping demand curve.

03:20:33 4 I used all of that information to choose a
03:20:35 5 standard microeconomic model to convert a change in
03:20:36 6 willingness to pay into a change in profit.

03:20:38 7 Q. Can you walk us through the model that you used to
03:20:41 8 calculate the change in Apple's profits?

03:20:45 9 A. Yes. This is on the next slide.

03:20:48 10 Q. Go ahead and -- and walk the jury through what's going
03:20:51 11 on here?

03:20:52 12 A. Sure. So if you ignore the red lines for a second and
03:20:56 13 just focus on the blue lines, we have the line labeled D.
03:21:01 14 That's what's known as an inverse demand curve. And
03:21:05 15 essentially that kind of reflects the distribution of
03:21:08 16 people's willingness to pay on the market.

03:21:10 17 The MR line there is marginal revenue. That's how
03:21:14 18 much revenue Apple gets from selling one more phone. The
03:21:17 19 MC line is what's known as marginal costs. That's how much
03:21:21 20 an extra phone costs Apple to make. And the blue rectangle
03:21:25 21 there is Apple's profits.

03:21:28 22 Q. How does this let you calculate a change in Apple's
03:21:31 23 profits?

03:21:32 24 A. So a change in willingness to pay is essentially the
03:21:35 25 same thing as a shift downward in the demand curve. I can

03:21:40 1 use these shifts in Apple's financial data to calculate
03:21:44 2 their new profit margin. You can see in a moment that --
03:21:49 3 it's that smaller red rectangle there. And then I look at
03:21:53 4 the difference in its profits to calculate a change in
03:21:56 5 profit.

03:21:56 6 So, here, you'll have our original \$3.98 in
03:22:02 7 willingness to pay translated into \$3.97 in Apple's change
03:22:06 8 in profit.

03:22:07 9 Q. Did you do this same analysis for each of the
03:22:11 10 percentage changes in LTE download and upload speed for all
03:22:16 11 the patented technology in this case?

03:22:17 12 A. I did.

03:22:17 13 Q. And what were your results?

03:22:19 14 A. So the results are summarized on this slide. So, for
03:22:23 15 example, you can see the '833 patent at the top is
03:22:27 16 associated with a change in Apple's profits of \$3.97 per
03:22:32 17 iPhone.

03:22:32 18 Q. And are these the same improvements in LTE speeds that
03:22:35 19 we heard Professors Madisetti and Mahon testify to over the
03:22:41 20 last two days?

03:22:42 21 A. They are.

03:22:43 22 Q. Did you stop there, or did you perform any checks on
03:22:45 23 the role -- the end results that we see here on this slide?

03:22:49 24 A. I performed two checks.

03:22:51 25 Q. And what checks did you perform?

03:22:53 1 A. First, I reviewed a study by Professor Prince who had
03:22:59 2 looked at willingness to pay for change in cellular speeds
03:23:02 3 in 2013. His results were more than double mine, so I
03:23:07 4 concluded that my results are likely conservative.

03:23:12 5 Q. And did you look at any other studies to check your
03:23:13 6 results?

03:23:13 7 A. I did. There's a paper written by Doctors Sidak and
03:23:19 8 Skog who analyzed market data on cell phones sold in the
03:23:21 9 United States -- smartphones sold in the United States in
03:23:23 10 2018.

03:23:24 11 Q. And how did that Sidak and Skog paper inform your
03:23:31 12 confidence in your results?

03:23:32 13 A. So, as I mentioned before, using market data can be
03:23:34 14 tricky, but their analysis, in my opinion, was sound. And
03:23:38 15 they found that a change in LTE speeds of 10.7 percent, the
03:23:45 16 results implied a change of roughly \$5.00 in the wholesale
03:23:49 17 price of a phone. So, again, my results are conservative.

03:23:52 18 Q. So, in conclusion, Dr. Reed-Arthurs, can you tell this
03:23:56 19 jury what your opinion is regarding the change in Apple's
03:23:58 20 profits from the patented technology?

03:24:00 21 A. Yes. So the '833 patent is associated with a change in
03:24:05 22 Apple's profits of \$3.97. The '332 patent is associated
03:24:10 23 with a change of \$1 .66. The '774 patent is associated
03:24:17 24 with a change of \$3.04. The '557 patent is associated with
03:24:22 25 a change of 5 cents. And the '284 patent is associated

03:24:27 1 with a change of 7 cents.

03:24:29 2 Q. Thank you, Doctor.

03:24:30 3 MS. TRUELOVE: I'll pass the witness.

03:24:31 4 THE COURT: Cross-examination by the Defendant?

03:25:00 5 You may proceed.

03:25:01 6 MS. SMITH: Thank you, Your Honor.

03:25:01 7 CROSS-EXAMINATION

03:25:02 8 BY MS. SMITH:

03:25:02 9 Q. Good afternoon, Dr. Reed-Arthurs?

03:25:10 10 A. Good afternoon.

03:25:10 11 Q. My name is Melissa Smith, and I represent Apple. It's
03:25:14 12 nice to meet you?

03:25:15 13 A. It's nice to meet you, too.

03:25:17 14 Q. Now, Doctor, this is not the first case that you've
03:25:20 15 worked on, you said, against Apple; is that correct?

03:25:22 16 A. Yes, it is.

03:25:24 17 Q. You've actually spent a fair amount of time working on
03:25:28 18 cases opposite Apple?

03:25:29 19 A. I have.

03:25:30 20 Q. And your firm, Berkeley Research Group, and you have
03:25:34 21 billed -- billed more than \$2 million on work against Apple
03:25:38 22 in the last five years; is that correct?

03:25:40 23 A. That sounds approximately correct.

03:25:43 24 Q. Now, in this case, you're not offering an opinion on
03:25:49 25 whether or not the patents-in-suit are valid or infringed,

03:25:52 1 are you?

03:25:52 2 A. No.

03:25:53 3 Q. You're not offering an opinion on any claimed technical
03:25:57 4 benefit enabled by the patents-in-suit, correct?

03:26:00 5 A. No, I'm relying on the technical experts.

03:26:03 6 Q. And you understand that if the patent-in-suit -- if the
03:26:08 7 patents-in-suit are not infringed, that Apple would owe no
03:26:10 8 damages, correct?

03:26:11 9 A. That is consistent with my understanding of the law.

03:26:16 10 Q. You're not here to offer an opinion on what the parties
03:26:18 11 would have agreed to during a hypothetical negotiation?

03:26:22 12 A. No.

03:26:23 13 Q. And you're not offering an opinion on which of the
03:26:27 14 party's licenses are comparable, are you?

03:26:30 15 A. No.

03:26:30 16 Q. You actually didn't even review any licenses in forming
03:26:34 17 your opinions, did you?

03:26:35 18 A. No, I did not.

03:26:36 19 Q. Your opinions are premised on the assumption that the
03:26:40 20 patents-in-suit enable an increase in LTE upload and
03:26:44 21 download speeds, correct?

03:26:47 22 A. Yes.

03:26:48 23 Q. You don't have an engineering degree?

03:26:50 24 A. No.

03:26:52 25 Q. And you're not a technical expert in cellular

03:26:55 1 technology?

03:26:56 2 A. That is correct.

03:26:57 3 Q. Not an expert in baseband processors?

03:26:59 4 A. No.

03:27:00 5 Q. And you haven't undertaken any type of investigation of
03:27:05 6 the technical details of the patents-in-suit?

03:27:07 7 A. No.

03:27:07 8 Q. So you relied upon Dr. Madisetti and Dr. Mahon's
03:27:14 9 opinions that the patents-in-suit enable an increase in LTE
03:27:18 10 upload and download speeds relative to the next best
03:27:21 11 alternative?

03:27:22 12 A. Yes.

03:27:23 13 Q. And you don't present any calculations of profit
03:27:28 14 attributable -- attributable to the patents-in-suit that
03:27:32 15 don't depend on Dr. Madisetti's and Dr. Mahon's opinions,
03:27:37 16 correct?

03:27:37 17 A. That is correct.

03:27:40 18 Q. And you didn't independently determine the best -- the
03:27:45 19 next best alternative to the patents-in-suit, correct?

03:27:49 20 A. No, I didn't.

03:27:50 21 Q. So, if the technical experts, Dr. Madisetti and
03:28:03 22 Dr. Mahon, are wrong about the percentage change in LTE in
03:28:08 23 that upload or download speed, then your conclusions would
03:28:10 24 also have to change, correct?

03:28:12 25 A. Yes, that's fair.

03:28:13 1 Q. And if Dr. Mahon's and Dr. Madisetti's calculation of
03:28:18 2 the benefits are off, then your calculation of the benefit
03:28:21 3 associated with the patents wouldn't hold either, would it?

03:28:24 4 A. Yes, if they're off.

03:28:28 5 Q. And if Dr. Mahon and Dr. Madisetti's speed calculations
03:28:32 6 are off, then your final conclusions would also be
03:28:36 7 incorrect?

03:28:36 8 A. When you say speed calculations, could you clarify?

03:28:40 9 Q. The calculations that Dr. Mahon -- were you in the --
03:28:43 10 were you in the room when Dr. Mahon and Dr. Madisetti
03:28:47 11 testified?

03:28:48 12 A. Yes.

03:28:48 13 Q. The -- the speed calculations they did on up -- on
03:28:51 14 upload and download, you didn't do those calculations on
03:28:54 15 your own?

03:28:55 16 A. The change in speeds, no, I did not.

03:28:57 17 Q. Okay. Thank you.

03:28:59 18 If the patents-in-suit don't provide upload or
03:29:03 19 download speed benefits, then that willingness to pay that
03:29:07 20 you calculated would be zero?

03:29:11 21 A. Yes. For those features, yes.

03:29:13 22 Q. And the profits that you calculated would be zero?

03:29:17 23 A. If there are no speed benefits, then that is true.

03:29:20 24 Q. And the damages based on your survey would be zero,
03:29:24 25 correct?

03:29:24 1 A. I don't have an opinion on that.

03:29:26 2 Q. Now, Doctor, at least -- I think about a quarter of
03:29:35 3 your work at Berkeley Research Group is actually outside
03:29:38 4 the courtroom or outside the context of litigation, isn't
03:29:41 5 it?

03:29:41 6 A. That sounds right.

03:29:43 7 Q. Okay. And outside the courtroom, outside the context
03:29:46 8 of litigation, you've done some valuation of intellectual
03:29:49 9 property, haven't you?

03:29:50 10 A. Yes, that's fair.

03:29:54 11 Q. All your work is not in litigation, correct?

03:29:56 12 A. No, it's not.

03:29:57 13 Q. And when you valued intellectual property outside the
03:30:01 14 courthouse, you've actually looked at comparable
03:30:05 15 technology, haven't you?

03:30:05 16 A. Yes, that is one thing that we review sometimes.

03:30:10 17 Q. And by that, I mean that would include licenses to
03:30:13 18 technology that was broadly similar to the technology that
03:30:17 19 you're valuing, correct?

03:30:19 20 A. Yes. Sometimes we do look at licenses, if we can find
03:30:22 21 them, that are sufficiently comparable.

03:30:24 22 Q. And you agree that considering licensing -- licensed
03:30:31 23 royalty rate for a sufficiently close comparable, it's an
03:30:34 24 accepted way to value intellectual property, correct?

03:30:36 25 A. If it is close enough, yes.

03:30:38 1 Q. And you said you yourself, you -- you do it -- you use
03:30:42 2 licenses?

03:30:42 3 A. I have used licenses in the past.

03:30:46 4 Q. And that's because it provides a -- a benchmark, if you
03:30:49 5 will, for what third parties are willing to pay for
03:30:53 6 something similar; is that right?

03:30:57 7 A. Yes.

03:31:01 8 Q. So outside the context of the courthouse in litigation,
03:31:06 9 you've looked at comparables to value intellectual
03:31:09 10 property?

03:31:09 11 A. Yes, when I can find sufficient comparable licenses.

03:31:13 12 Q. But, in this case, you didn't even review a single
03:31:18 13 license in trying to value the patents-in-suit, did you?

03:31:20 14 A. No, that wasn't part of my analysis.

03:31:25 15 Q. Instead, you performed what's called a choice-based
03:31:31 16 conjoint survey, that you discussed with Ms. Truelove; is
03:31:33 17 that right?

03:31:33 18 A. It is.

03:31:34 19 Q. And that's actually something that you've never used to
03:31:40 20 value intellectual property outside the context of this --
03:31:42 21 a courthouse, correct?

03:31:45 22 A. I don't think outside of litigation. It's very common,
03:31:48 23 but I haven't myself used it.

03:31:51 24 Q. And, here, your conjoint survey is designed to measure
03:31:57 25 the value of improvements in LTE speed, correct?

03:32:00 1 A. Yes, it is.

03:32:00 2 Q. Now, the first thing you did, you conducted a survey of
03:32:07 3 smartphone purchasers, right?

03:32:09 4 A. Yes.

03:32:09 5 Q. Okay. The survey presented the smartphone purchasers
03:32:12 6 with a set of hypothetical products with various features,
03:32:17 7 correct?

03:32:17 8 A. Yes.

03:32:17 9 Q. And you didn't present specific model numbers --
03:32:26 10 specific model numbers to the purchasers, did you?

03:32:29 11 A. No.

03:32:29 12 Q. So your survey, for instance, didn't include an iPhone
03:32:33 13 5 with all the features that would be present in an iPhone
03:32:36 14 5?

03:32:36 15 A. Yeah, you can't list all of the features in a phone.
03:32:40 16 There would be too many.

03:32:42 17 Q. The purchasers were presented with options where
03:32:45 18 there's actually no identical phone in the -- I believe you
03:32:51 19 and Ms. Truelove were discussing the real world; is that
03:32:55 20 correct?

03:32:55 21 A. Sorry?

03:32:55 22 Q. Sure. The purchasers in the survey were presented with
03:33:00 23 -- with -- with options where there's no identical phone
03:33:04 24 that appears in the actual -- the real -- the real-world
03:33:08 25 market, correct?

03:33:09 1 A. Yes, there will be options that aren't identical to
03:33:12 2 phones in the real world.

03:33:13 3 Q. Well, for example, let's take storage size. You
03:33:16 4 presented options of 32, 64, 128, and 256 gigabytes,
03:33:23 5 correct?

03:33:23 6 A. I did, yes.

03:33:24 7 Q. Okay. But -- but -- but you're aware, Doctor, that,
03:33:29 8 for example, Apple didn't even offer a 20 -- 256 gigabyte
03:33:33 9 iPhone during several of the years covered by your survey?

03:33:37 10 A. That is correct. I was spanning the entire time frame.

03:33:41 11 Q. Okay. And your survey actually included an iPhone for
03:33:44 12 \$199.00, didn't it?

03:33:46 13 A. Yes, it does.

03:33:49 14 Q. And you agree that there's not an iPhone offered for a
03:33:51 15 price of \$199.00 during the relevant time period, correct?

03:33:56 16 A. Yes, that is likely.

03:33:57 17 Q. But your survey nonetheless included an iPhone at the
03:34:02 18 cost of \$199.00?

03:34:05 19 A. Yes.

03:34:05 20 Q. Now, you intentionally didn't create combinations that
03:34:16 21 reflected specific real-world products, correct?

03:34:18 22 A. Yes. I included additional variation, that is correct.

03:34:23 23 Q. Okay. And based on the survey results, the ones -- the
03:34:30 24 survey results regarding those hypothetical products, you
03:34:33 25 calculated a willingness to pay for average LTE upload and

03:34:37 1 download speed, correct?

03:34:38 2 A. Yes.

03:34:38 3 Q. And that willingness to pay that you calculated, it
03:34:43 4 wasn't related in any way to Apple's real-world or actual
03:34:47 5 sales data, was it?

03:34:48 6 A. I wouldn't agree with that.

03:34:51 7 Q. Well, you certainly didn't base your willingness to pay
03:35:03 8 calculation on any internal Apple pricing strategy
03:35:07 9 documents, did you?

03:35:08 10 A. That is true.

03:35:12 11 Q. Now, after calculating the willingness to pay, you
03:35:23 12 assumed that Apple would adjust their prices optimally,
03:35:28 13 correct?

03:35:28 14 A. I did use a profit maximizing model, which, yes, that
03:35:35 15 is part of that.

03:35:36 16 Q. Okay. But -- but you actually thought you had
03:35:38 17 insufficient -- insufficient information to separate
03:35:41 18 changes in LTA -- LTE speed from the features of Apple's
03:35:46 19 products, correct?

03:35:46 20 A. Specifically, using only Apple's data on its iPhones,
03:35:50 21 yes, that is correct.

03:35:51 22 Q. And then the next step you calculated the change in
03:35:55 23 profit resulting from your willingness to pay calculation,
03:35:57 24 correct?

03:35:57 25 A. Yes.

03:35:59 1 Q. Okay. And in doing that calculation, you didn't cite
03:36:02 2 any statements from any Apple employees that an increase in
03:36:08 3 price will actually result in a decrease in volume for
03:36:12 4 iPhones, did you?

03:36:12 5 A. No, I didn't state anything for that.

03:36:15 6 Q. And you didn't cite any articles saying that an
03:36:19 7 increase in price will result in a decrease in volume for
03:36:23 8 iPhones, did you?

03:36:24 9 A. No, I didn't cite articles that they obeyed the law of
03:36:32 10 demand.

03:36:33 11 Q. Now, in conducting your survey, you instructed people
03:36:36 12 to assume that each option they saw was exactly the same as
03:36:40 13 their current smartphone, correct?

03:36:42 14 A. Yes, that is correct, with the exception of the
03:36:48 15 features that varied.

03:36:49 16 MS. SMITH: Your Honor, I'm going to move to
03:36:51 17 strike the last part of her answer, please.

03:36:53 18 THE COURT: All right. I'll grant that objection
03:37:20 19 and strike the answer after, "yes, that is correct." The
03:37:25 20 remainder of it will be struck.

03:37:27 21 MS. SMITH: Thank you, Your Honor.

03:37:29 22 Q. (By Ms. Smith) But not all smartphones have the same
03:37:32 23 features in the real world, correct?

03:37:33 24 A. Yes, that is true.

03:37:35 25 Q. For example, an iPhone uses iOS software, right?

03:37:40 1 A. It does.

03:37:40 2 Q. And no other smartphone manufacturers uses iOS -- iOS
03:37:46 3 software?

03:37:47 4 A. That's true.

03:37:47 5 Q. Other phone manufacturers might include features that
03:37:50 6 Apple products don't have, correct?

03:37:53 7 A. Yes.

03:37:54 8 Q. Samsung might include some differentiating feature in
03:37:59 9 the products that are not in Apple's products?

03:38:00 10 A. That is correct.

03:38:01 11 Q. But if those survey products don't actually include the
03:38:05 12 features in the person's current -- current phone, that
03:38:09 13 assumption -- it wouldn't be consistent with reality,
03:38:11 14 correct?

03:38:11 15 A. That is potential -- there is potential for that, yes.

03:38:14 16 Q. Now, on that note, you -- you conducted the -- a focus
03:38:20 17 group that you visited with Ms. Truelove about before
03:38:23 18 conducting the survey, correct?

03:38:24 19 A. I did.

03:38:24 20 Q. And the focus group, as you said, is where you have
03:38:28 21 real people take the survey to understand how they're
03:38:31 22 interpreting the different questions, correct?

03:38:33 23 A. Yes.

03:38:35 24 Q. And you use a focus group to identify potential
03:38:39 25 problems in your survey, correct?

03:38:41 1 A. I do.

03:38:43 2 Q. Here your focus group contains six people?

03:38:45 3 A. Yes.

03:38:47 4 Q. And based on the feedback from the focus group, you
03:38:50 5 actually modified in some instances the description of the
03:38:56 6 price to specify that the price didn't include trade-in
03:38:59 7 value?

03:38:59 8 A. I did, yes.

03:39:00 9 Q. And the reason you made that change was because one
03:39:04 10 focus group participant indicated some -- some type of
03:39:07 11 uncertainty about whether the price included trade-in
03:39:11 12 value?

03:39:11 13 A. Yes, that is true.

03:39:13 14 Q. And you recognize that whether the survey assumed
03:39:17 15 trade-in prices, it could actually impact how the survey
03:39:21 16 respondents interpreted price, correct?

03:39:23 17 A. Yes, that is possible.

03:39:27 18 Q. And if there is an impact on how the respondents
03:39:31 19 interpreted price, then it could impact your calculation of
03:39:34 20 will -- willingness to pay?

03:39:37 21 A. Yes, there are scenarios where that's true.

03:39:42 22 Q. You take notes when you conduct these focus groups, do
03:39:45 23 you not?

03:39:46 24 A. I do.

03:39:46 25 Q. Doctor, if you would turn in your binder --

03:39:53 1 MS. SMITH: And, Mr. Lee, if you could pull up
03:39:56 2 Plaintiffs' Exhibit 2822.

03:39:59 3 Q. (By Ms. Smith) I think we're going to see some notes
03:40:01 4 from your focus group. Do those look familiar, Doctor?

03:40:06 5 A. They do, indeed.

03:40:06 6 MS. SMITH: All right. I need my glasses for
03:40:06 7 this.

03:40:07 8 A. Sorry, which tab am I on?

03:40:10 9 Q. (By Ms. Smith) Tab 2, Doctor.

03:40:12 10 And I am -- are you there?

03:40:20 11 A. Yes.

03:40:20 12 Q. Okay. Great. And I also have it on your screen for --
03:40:24 13 for your convenience?

03:40:25 14 Now, I'm going to call your attention, Doctor, to
03:40:28 15 the second paragraph that talks about -- you asked the
03:40:30 16 focus group whether any features stood out and why. Do you
03:40:33 17 see that?

03:40:33 18 A. Yes, I do.

03:40:34 19 Q. Okay. And we see Kathie here, and it looks like price
03:40:37 20 stood out to Kathie, because there were several
03:40:40 21 combinations with really good features and a low price,
03:40:44 22 correct?

03:40:44 23 A. Yes, in her version of the survey, that was her
03:40:47 24 opinion, yes.

03:40:50 25 MS. SMITH: Your Honor, I'll move to strike the

03:40:55 1 last part of that response.

03:41:11 2 THE COURT: I'll overrule that. I mean,
03:41:13 3 everything in here is her opinion. It's an opinion survey.
03:41:16 4 I don't think that's non-responsive.

03:41:17 5 MS. SMITH: Thank you, Your Honor.

03:41:19 6 Q. (By Ms. Smith) All right. Let's look -- I'm going to
03:41:21 7 direct your attention to a respondent -- I believe she says
03:41:25 8 her name is Mekia?

03:41:27 9 A. Yes, that's correct.

03:41:29 10 Q. Okay.

03:41:35 11 MS. SMITH: I am looking -- let me see -- I am
03:41:38 12 looking, actually at the second page, Mr. Lee, at the top.
03:41:42 13 There we go, thank you.

03:41:44 14 Q. (By Ms. Smith) It says: Mekia thought there were a
03:41:47 15 few strange storage and price combinations; for instance,
03:41:51 16 too much storage for too low of a price.

03:41:54 17 Do you see that, Doctor?

03:41:55 18 A. Yes, I do.

03:41:56 19 Q. Okay. So what we learned from these notes is that at
03:41:58 20 least two members of your six-person focus group expressed
03:42:04 21 that they -- they had some selections where they were
03:42:06 22 surprised by the price and feature combinations, correct?

03:42:09 23 A. Yes, that there were -- yeah, a few selections, that's
03:42:15 24 true.

03:42:15 25 Q. They -- but you didn't make any changes to your survey

03:42:18 1 based on that feedback, did you?

03:42:19 2 A. No, I didn't think they were warranted.

03:42:22 3 Q. Okay. And you didn't make changes, even though you
03:42:25 4 agree that if there was an impact on how the respondents
03:42:31 5 interpreted price, then it could impact your calculation of
03:42:34 6 willingness to pay, correct?

03:42:35 7 A. This doesn't indicate -- what you're stating is
03:42:42 8 correct, but I don't think you can draw that conclusion
03:42:44 9 from these statements.

03:42:46 10 Q. Now, let's look a little further in your notes. I
03:43:03 11 think we see --

03:43:05 12 MS. SMITH: Mr. Lee, if we go down to LTE speed on
03:43:09 13 Point 3.

03:43:11 14 Q. (By Ms. Smith) We see here some additional feedback.
03:43:13 15 It says most of the focus group didn't know exactly what
03:43:16 16 speed their phones operated at?

03:43:18 17 Do you see that, Doctor?

03:43:19 18 A. I do.

03:43:20 19 Q. Does that meet with your recollection of these notes?

03:43:22 20 A. It does.

03:43:24 21 Q. Yet you actually decided to include average LTE upload
03:43:27 22 and download speed in your survey, didn't you?

03:43:29 23 A. Yes, I definitely did.

03:43:31 24 Q. Now, in a survey, if you tip your hand as to the
03:43:37 25 feature that you care about, that can -- that can create a

03:43:43 1 bias in responses, can't it?

03:43:45 2 A. Yes.

03:43:45 3 Q. And to create your survey, you first examined how
03:43:50 4 smartphone manufacturers like Apple and Samsung describe
03:43:54 5 and promote their cellular speeds. I believe I heard that
03:43:57 6 testimony; is that correct?

03:43:58 7 A. I did, yes.

03:43:59 8 Q. And you looked at some literature, which you shared
03:44:03 9 some of it with the jurors, to see how those companies
03:44:07 10 describe the features; is that correct?

03:44:09 11 A. Yes.

03:44:10 12 Q. Okay.

03:44:12 13 MS. SMITH: Mr. Lee, if we can see Plaintiffs'
03:44:15 14 190.

03:44:16 15 Q. (By Ms. Smith) And that's Tab 3, Doctor.

03:44:24 16 Now, you may recognize this, this is an Apple
03:44:27 17 press release for the iPhone 5. Do you recognize that,
03:44:30 18 Doctor?

03:44:30 19 A. I do.

03:44:31 20 Q. And this is the press release that references
03:44:35 21 ultra-fast wireless standards, correct?

03:44:37 22 A. Yes.

03:44:39 23 Q. Okay.

03:44:40 24 MS. SMITH: If we could go down to that fifth
03:44:43 25 paragraph. Let's see -- there you go, Mr. Lee.

03:45:02 1 Q. (By Ms. Smith) We see some discussion about supporting
03:45:04 2 LTE technology; do you see that?

03:45:05 3 A. I do.

03:45:08 4 Q. And do you see any mention in there of any specific
03:45:15 5 average upload or download speeds?

03:45:18 6 A. No, these are generic marketing terms.

03:45:21 7 Q. Okay.

03:45:23 8 MS. SMITH: Now, Mr. Lee, if we can go to the
03:45:25 9 bottom of that page, let's see. I'm sorry, back -- back up
03:45:29 10 to LTE. I apologize. At the bottom of that paragraph.
03:45:40 11 There we go.

03:45:42 12 Q. (By Ms. Smith) We see some language that says:
03:45:48 13 Network speeds are dependent on carrier network. Do you
03:45:51 14 see that?

03:45:52 15 A. Sorry, I'm having trouble finding it here.

03:45:57 16 Q. I apologize. Let's see if Mr. Lee can get you to the
03:46:01 17 right place.

03:46:07 18 MS. SMITH: There's some -- Mr. Lee, there at the
03:46:10 19 third of fourth pages, about middle of the page, it says:
03:46:14 20 LTE is available through select carriers. There we go.
03:46:18 21 Thank you, Mr. Lee.

03:46:19 22 Q. (By Ms. Smith) See that, Doctor? That says: Network
03:46:22 23 speeds are dependent on carrier networks. Check with your
03:46:27 24 carrier for details?

03:46:28 25 A. I do.

03:46:29 1 Q. Did you see that when you were preparing your survey?

03:46:31 2 A. I did.

03:46:31 3 Q. But you didn't include any notes such as that set forth
03:46:36 4 in the press release from your survey, did you?

03:46:37 5 A. I did not. I didn't think it would be appropriate.

03:46:42 6 Q. Now --

03:46:43 7 MS. SMITH: You can take that down, Mr. Lee.

03:46:46 8 Q. (By Ms. Smith) You've never had any responsibility for
03:46:48 9 setting product prices, including for cell phones, have
03:46:52 10 you?

03:46:52 11 A. No.

03:46:52 12 Q. And you'd agree with me that there's a difference
03:46:56 13 between willingness to pay more and actually paying more,
03:46:59 14 wouldn't you?

03:46:59 15 A. Yes.

03:47:01 16 Q. And you're not aware of Apple specifically considering
03:47:05 17 LTE upload or download speed and setting the prices for
03:47:09 18 its -- for its products, correct?

03:47:11 19 A. It is consistent with its pricing patterns, but I
03:47:15 20 haven't seen specific evidence.

03:47:17 21 Q. So you're not aware of Apple specifically considering
03:47:22 22 it, are you?

03:47:23 23 A. No, I haven't heard from Apple representatives specific
03:47:26 24 to that.

03:47:26 25 Q. And you haven't seen any documents or testimony

03:47:29 1 indicating that Apple considers LTE upload or download
03:47:35 2 speed in setting prices for its products, have you?

03:47:37 3 A. Again, it's consistent with its documents, but I
03:47:40 4 haven't seen something specific to LTE speeds.

03:47:42 5 Q. And you haven't conducted a survey of actual iPhone
03:47:49 6 purchasers and asked them whether they purchased their
03:47:53 7 phone because it had a faster speed, correct?

03:47:55 8 A. I don't think I would agree with that.

03:47:58 9 Q. That you've conducted a survey of actual iPhone
03:48:03 10 purchasers and asked them whether they purchased their
03:48:06 11 phone because of speed?

03:48:07 12 A. Oh, sorry, I haven't conducted one. I've just seen
03:48:11 13 them.

03:48:11 14 Q. Thank you.

03:48:11 15 And you haven't asked anyone whether they actually
03:48:14 16 paid more for their iPhone because it had faster LTE speed,
03:48:19 17 have you?

03:48:19 18 A. No.

03:48:19 19 Q. According to you, there was not sufficient evidence for
03:48:25 20 you to determine whether a change to LTE upload or download
03:48:30 21 speed impacts Apple's pricing, correct?

03:48:33 22 A. Based solely on Apple's iPhone data, yes.

03:48:38 23 Q. But you nonetheless attempted to determine willingness
03:48:44 24 to pay associated with the patents-in-suit, correct?

03:48:45 25 A. Yes.

03:48:46 1 Q. And you understand in this case, Plaintiffs have
03:48:54 2 accused only LTE-enabled devices of infringement, correct?

03:48:58 3 A. Yes.

03:48:58 4 Q. And you calculate -- you calculate a change in profit
03:49:02 5 only for LTE-enabled devices?

03:49:06 6 A. Yes.

03:49:06 7 Q. And you understand that the first LTE-enabled iPhone
03:49:11 8 was the iPhone 5?

03:49:12 9 A. I do.

03:49:12 10 Q. And it was launched, I believe, some -- some time back
03:49:18 11 in September of 2012, correct?

03:49:20 12 A. Yes.

03:49:20 13 Q. And the iPhones prior to the iPhone 5, they didn't have
03:49:26 14 LTE, correct?

03:49:26 15 A. Yes.

03:49:26 16 Q. So the iPhones before the iPhone 5, undisputedly, don't
03:49:32 17 use the patents-in-suit, correct?

03:49:33 18 A. That is my understanding.

03:49:36 19 MS. SMITH: Mr. Lee, if we could see Plaintiffs'
03:49:38 20 Exhibit 51 again.

03:49:44 21 Q. (By Ms. Smith) Okay. Now, this is a price list for
03:50:00 22 iPhone models from the iPhone -- from the iPhone to the
03:50:06 23 iPhone 6, correct?

03:50:08 24 A. Well, so far this page goes through the iPhone 4S.

03:50:14 25 Q. I apologize?

03:50:15 1 MS. SMITH: Mr. Lee, can you show the witness the
03:50:17 2 remainder?

03:50:18 3 Q. (By Ms. Smith) All right. The iPhone 4 is on this
03:50:20 4 list?

03:50:21 5 MS. SMITH: I'm going to have Mr. Lee highlight
03:50:23 6 the iPhone 4S.

03:50:26 7 Q. (By Ms. Smith) That was the last model to launch
03:50:28 8 before the 5, correct?

03:50:29 9 A. The 4S, yes.

03:50:32 10 Q. And each model of the 4S was without LTE, correct?

03:50:36 11 A. That is my understanding.

03:50:49 12 Q. And then we see the launch of the iPhone 5C; do you see
03:50:53 13 that?

03:50:53 14 A. The 5C, yes.

03:50:54 15 Q. And each -- and that one has LTE, correct?

03:50:59 16 A. I believe so, yes.

03:51:00 17 Q. And each of the 5C products was offered at the same
03:51:04 18 price or lower than the non-LTE 4S, correct?

03:51:11 19 A. Let me compare. I mean, so you're comparing apples and
03:51:22 20 oranges across time, right? Could you repeat your
03:51:24 21 question, I'm sorry.

03:51:25 22 Q. At the time of the iPhone 4 launch and the time of the
03:51:29 23 iPhone 5C launch, they were priced the same, were they not?

03:51:33 24 A. Yes, that is correct.

03:51:41 25 Q. Okay.

03:51:41 1 A. Those were different times, though. But, yes, at the
03:51:45 2 time of launch, two years apart.

03:51:46 3 Q. Now, you were here for Mr. Mueller's opening, were you
03:52:07 4 not?

03:52:08 5 A. I was.

03:52:08 6 Q. And you saw Mr. Mueller buy -- you saw that he
03:52:12 7 purchased a phone at Walmart for \$30.00 that had LTE, did
03:52:15 8 you not?

03:52:16 9 A. I recall something to that effect.

03:52:18 10 Q. Here, let me -- does this jog your memory?

03:52:21 11 A. Yes.

03:52:22 12 Q. All right. And you don't dispute that it's possible to
03:52:24 13 buy a phone with LTE for \$30.00, do you?

03:52:27 14 A. No.

03:52:28 15 Q. Okay. And this phone here can connect to the LTE
03:52:32 16 network?

03:52:35 17 A. I assume that is correct.

03:52:36 18 Q. You have no reason to dispute that if it says it on the
03:52:39 19 box?

03:52:39 20 A. No, I do not.

03:52:40 21 Q. Okay. Can make calls using the LTE network?

03:52:43 22 A. I assume so, yes.

03:52:45 23 Q. It can probably send data using the LTE network?

03:52:48 24 A. Yes.

03:52:48 25 Q. Okay. Now, in your analysis, you calculated the change

03:52:52 1 in retail willingness to pay for each patent; is that
03:52:55 2 correct?

03:52:55 3 A. Yes.

03:53:00 4 Q. That last slide we saw Ms. Truelove put -- put up. How
03:53:04 5 much -- when you add all of each patent up, what does that
03:53:08 6 number come to?

03:53:09 7 A. Sorry, you want retail willingness to pay and not
03:53:13 8 profits.

03:53:13 9 Q. Profits, excuse me. Yes. Excuse me?

03:53:15 10 A. Okay. Let's see, I believe it was \$8.79.

03:53:20 11 Q. Okay. And that would be \$8.79 on -- and this whole
03:53:29 12 phone costs \$30.00; is that correct?

03:53:36 13 A. The math that you're doing is correct.

03:53:39 14 Q. Thank you?

03:53:40 15 MS. SMITH: I'll pass the witness.

03:53:41 16 THE COURT: Redirect, Ms. Truelove.

03:53:42 17 MS. TRUELOVE: Yes, Your Honor.

03:53:44 18 THE COURT: Please proceed.

03:53:45 19 MS. TRUELOVE: Thank you.

03:53:45 20 REDIRECT EXAMINATION

03:53:46 21 BY MS. TRUELOVE:

03:53:46 22 Q. Doctor, what -- what did Apple's survey expert say
03:53:55 23 about whether using a comparable license approach was
03:53:58 24 better than using a CBC survey?

03:54:00 25 A. They didn't have a survey expert.

03:54:03 1 Q. Well, what is your opinion about whether using
03:54:06 2 comparable licenses is better or worse than using a CBC
03:54:10 3 survey approach?

03:54:11 4 A. I think it's an entirely different approach, and it
03:54:15 5 will depend. But I do think a CBC survey approach is very
03:54:20 6 reliable.

03:54:21 7 Q. Do you know whether PanOptis has somebody that is going
03:54:26 8 to come up and talk to the jury about comparable license
03:54:30 9 approach?

03:54:30 10 A. PanOptis? Not that I'm aware of.

03:54:33 11 Q. Is someone going to speak to them about licenses?

03:54:36 12 A. Oh, well, Mr. Kennedy will review licenses.

03:54:39 13 Q. Okay. And -- and what is his role in this case?

03:54:42 14 A. He's the damages expert.

03:54:43 15 Q. All right. And what did he ask you to do?

03:54:45 16 A. He asked me to design and create a survey to measure
03:54:50 17 people's willingness to pay for LTE upload and download
03:54:54 18 speeds and Apple's profits associated therewith.

03:54:57 19 Q. Ms. Smith talked to you a lot about what she was
03:55:02 20 calling hypothetical phones in the marketplace and phones
03:55:05 21 taking on features that weren't currently -- or levels to
03:55:09 22 features that weren't currently in the marketplace. Do you
03:55:12 23 recall that?

03:55:12 24 A. I do.

03:55:12 25 Q. What did Apple's survey expert have to say regarding

03:55:16 1 you taking those levels for your features in your survey?

03:55:18 2 A. They didn't have a survey expert.

03:55:22 3 Q. Why did you allow an iPhone to have the price of

03:55:26 4 \$199.00?

03:55:27 5 A. Because I wanted to reasonably reflect the range of

03:55:31 6 prices not just for Apple's phones but for competing phones

03:55:35 7 in the market. Phones like Motorola and LG do take those

03:55:42 8 values.

03:55:43 9 Q. Ms. Smith also talked to you about storage and the

03:55:52 10 levels that you applied to storage, and you included a

03:55:55 11 level up to 256 gigabytes. Do you recall that?

03:55:59 12 A. I do.

03:55:59 13 Q. What did Apple's survey expert have to say about

03:56:03 14 whether or not that was an appropriate level to include for

03:56:08 15 your storage feature?

03:56:08 16 A. Still nothing. They didn't have a survey expert.

03:56:10 17 Q. Okay. Is -- is including a level that you might not

03:56:12 18 find on the marketplace, how is that going to affect your

03:56:15 19 survey results, if at all?

03:56:17 20 A. Well -- so you oftentimes do need to include levels

03:56:22 21 that you don't find on the marketplace to help you tease

03:56:24 22 out the value of different features. And the 256

03:56:27 23 megabytes, you do find on the marketplace. I -- I think

03:56:29 24 you can buy an Apple phone right now that has 256

03:56:33 25 gigabytes.

03:56:34 1 Q. We talked a little bit -- Ms. Smith did, talked with
03:56:38 2 you about your focus group. Do you recall that?

03:56:40 3 A. Yes.

03:56:40 4 Q. And she went through several comments that the focus
03:56:45 5 group made. Do you recall that?

03:56:46 6 A. I do.

03:56:46 7 Q. And whose notes were those?

03:56:48 8 A. They were mine.

03:56:49 9 Q. And why were you taking those notes?

03:56:51 10 A. To keep an accurate record of what I experienced so I
03:56:56 11 could decide whether or not the survey needed modification.

03:56:59 12 Q. So it sounds like the focus group worked?

03:57:03 13 A. Yes.

03:57:04 14 Q. And did Apple's survey expert have any criticism of
03:57:07 15 your methods and the way you went about conducting and
03:57:11 16 designing your survey, including with the focus group?

03:57:14 17 A. They did not offer a survey expert.

03:57:23 18 Q. I think one of the comments, if I recall, in the notes
03:57:27 19 that Mekia, I think it was, said she didn't know what speed
03:57:30 20 her phone was operating at at any given time, and I'm
03:57:34 21 paraphrasing. Do you recall that?

03:57:35 22 A. Yes.

03:57:35 23 Q. And how does that affect your survey results, if at
03:57:42 24 all?

03:57:42 25 A. It doesn't. So in the real world, people aren't always

03:57:46 1 going to know what their phone is doing or the exact
03:57:49 2 characteristics, but they still buy phones anyway. That
03:57:52 3 actually better creates -- mimics the real world.

03:57:57 4 Q. And -- and, again, was there any criticism from a
03:58:01 5 survey expert in this case about that particular aspect of
03:58:04 6 your survey?

03:58:05 7 A. No.

03:58:05 8 Q. And -- and I think you testified that you had reviewed
03:58:11 9 a conjoint-based survey by Professor Hauser; is that right?

03:58:16 10 A. That is true.

03:58:17 11 Q. And who is he again?

03:58:18 12 A. He is a professor at MIT who has conducted CBC surveys
03:58:24 13 for Apple to measure the demand -- consumer demand for
03:58:28 14 patented features.

03:58:28 15 Q. And how many -- how many surveys did he do; do you
03:58:32 16 know?

03:58:32 17 A. At least two that I know.

03:58:33 18 Q. And -- and, again, we don't have a survey expert in
03:58:36 19 this case that performed the same type of analysis that you
03:58:38 20 did to get any comparison, do we?

03:58:40 21 A. No.

03:58:42 22 MS. TRUELOVE: Pass the witness.

03:58:44 23 THE COURT: Further cross-examination.

03:58:44 24 RECROSS-EXAMINATION

03:58:45 25 BY MS. SMITH:

03:58:45 1 Q. Doctor, did -- did your counsel fail to inform you that
03:58:54 2 Dr. Ray Perryman will be testifying in this case in a few
03:58:57 3 days?

03:58:58 4 A. I am aware of that.

03:58:59 5 Q. Thank you?

03:59:00 6 THE COURT: Do you pass the witness, Ms. Smith?

03:59:02 7 MS. SMITH: I do, Your Honor.

03:59:03 8 THE COURT: Additional direct, Ms. Truelove?

03:59:05 9 MS. TRUELOVE: Yes, Your Honor.

03:59:05 10 REDIRECT EXAMINATION

03:59:08 11 BY MS. TRUELOVE:

03:59:08 12 Q. Dr. Reed-Arthurs, are you familiar with Mr. Perryman?

03:59:11 13 A. I am.

03:59:12 14 Q. You've been doing economist work and this survey work
03:59:15 15 for how long?

03:59:16 16 A. Over 10 years now.

03:59:17 17 Q. Have you ever seen a published survey by Dr. Perryman
03:59:21 18 in your field?

03:59:22 19 A. I don't believe so, no.

03:59:24 20 Q. All right?

03:59:25 21 MS. TRUELOVE: Thank you, Your Honor. Pass the
03:59:27 22 witness.

03:59:27 23 THE COURT: Anything further for cross, Ms. Smith?

03:59:29 24 MS. SMITH: No, Your Honor.

03:59:30 25 THE COURT: All right. Dr. Reed-Arthurs, you may

03:59:33 1 step down.

03:59:34 2 THE WITNESS: Thank you, Your Honor.

03:59:35 3 THE COURT: You're welcome.

03:59:36 4 MS. TRUELOVE: Your Honor, could we ask that
03:59:38 5 Dr. Reed-Arthurs be excused?

03:59:39 6 THE COURT: Any objection?

03:59:40 7 MS. SMITH: No objection.

03:59:41 8 THE COURT: The witness is excused.

03:59:43 9 Plaintiffs, who is your next witness?

03:59:46 10 MR. SHEASBY: Your Honor, Plaintiffs will call
03:59:51 11 Mr. Kennedy. But before we do that, I believe we should
03:59:54 12 seal the courtroom because there is going to be some
03:59:57 13 confidential information shown in Mr. Kennedy's testimony,
04:00:00 14 and it may be less disruptive if we seal it now. It's
04:00:06 15 Apple's confidential information, but I want to respect
04:00:11 16 that.

04:00:11 17 THE COURT: All right. Who's going to -- who's
04:00:12 18 going to direct the witness?

04:00:13 19 MS. BAXTER: I am, Your Honor.

04:00:13 20 THE COURT: What's your best estimate of time,
04:00:13 21 Mr. Baxter?

04:00:13 22 MR. BAXTER: Take about an hour, Your Honor.

04:00:17 23 THE COURT: All right. Well, I won't promise you
04:00:21 24 we won't break for some recess in the middle of it, but
04:00:24 25 we'll get started.

04:00:24 1 MR. BAXTER: That would probably be very helpful
04:00:26 2 for me, Your Honor.

04:00:27 3 THE COURT: Well, we'll do it when we need to.

04:00:29 4 MR. BAXTER: Thank you.

04:00:32 5 THE COURT: If Mr. Kennedy will come forward and
04:00:34 6 be sworn.

04:00:58 7 (Witness sworn.)

04:00:59 8 THE COURT: Please, sir, come around, have a seat
04:01:01 9 here at the witness stand.

04:01:06 10 And based on counsel's request at this time and
04:01:14 11 before this testimony begins, I'll order the courtroom
04:01:16 12 sealed and direct that anyone present not subject to the
04:01:19 13 protective order or aligned with Defendant, Apple, since
04:01:24 14 it's their information that's at issue, those persons
04:01:26 15 should excuse themselves and remain outside the courtroom
04:01:29 16 until the courtroom is unsealed and reopened.

04:01:32 17 (Courtroom sealed.)

04:01:32 18 (This portion of the transcript is sealed
04:01:32 19 and filed under separate cover as

04:33:54 20 Sealed Portion No. 7.)

04:33:54 21 (Courtroom unsealed.)

04:33:55 22 THE COURT: And the jury is excused to the jury
04:33:56 23 room for recess.

04:34:00 24 COURT SECURITY OFFICER: All rise.

04:34:02 25 THE COURT: You lead the way, Ms. Scott.

04:34:09 1 JUROR: Yes, sir.

04:34:12 2 THE COURT: Thank you.

04:34:21 3 (Jury out.)

04:34:22 4 THE COURT: The Court stands in recess.

04:48:08 5 (Recess.)

04:48:20 6 (Jury out.)

04:48:20 7 COURT SECURITY OFFICER: All rise.

04:48:24 8 THE COURT: Be seated, please.

04:48:28 9 Are you ready to continue, Mr. Baxter?

04:48:31 10 MR. BAXTER: Yes, Your Honor.

04:48:31 11 MR. MUELLER: I apologize, Your Honor. Before you
04:48:33 12 call the jury back, the objection that I made, just to
04:48:35 13 explain, if I could, there was a reference to negotiations
04:48:35 14 between the parties of being unable to strike a deal in the
04:48:43 15 real world, which is being contrasted with the hypothetical
04:48:46 16 negotiation.

04:48:46 17 I objected because that was getting into -- if not
04:48:50 18 into, very, very close to the NDA protected material
04:48:54 19 pursuant to Your Honor's rulings. That's why I objected.
04:48:57 20 I would ask that there be no more questions that get close
04:49:01 21 to this line.

04:49:02 22 THE COURT: I heard the statement of the witness
04:49:05 23 being conditioned on what he had heard in court, and based
04:49:08 24 on that, I don't believe it crossed that line.

04:49:10 25 MR. MUELLER: Understood.

04:49:10 1 THE COURT: But I understand the basis of your
04:49:13 2 objection.

04:49:14 3 MR. MUELLER: Thank you.

04:49:14 4 And the last thing I'll just mention briefly, in
04:49:17 5 case Mr. Blevins is called today, Panasonic, LG, and
04:49:21 6 Samsung have now been mentioned with the last three
04:49:24 7 witnesses. This first deposition clip. Ms. Dwyer's
04:49:25 8 testimony, she talked about those three companies being
04:49:28 9 delegates to the LTE standards creation. And now we've
04:49:30 10 heard those are the three companies at the hypothetical
04:49:35 11 negotiating table.

04:49:36 12 I think at this point, Your Honor, two days into
04:49:40 13 the testimony, it's very, very clear that the door has been
04:49:42 14 opened for Mr. Blevins to say if Apple had been approached
04:49:47 15 by any of those three companies.

04:49:49 16 THE COURT: Well, we're not -- I mean, I don't
04:49:51 17 think we're going to get to that today. I don't know how
04:49:55 18 long your cross-examination of this witness is going to go,
04:49:57 19 but it's almost 5:00 o'clock now. Who follows Mr. Kennedy?

04:50:05 20 MR. SHEASBY: We rest, Your Honor.

04:50:07 21 THE COURT: Okay. And then your first witness
04:50:09 22 will be --

04:50:12 23 MR. MUELLER: Mr. Blevins.

04:50:13 24 THE COURT: Okay. I don't want to keep the -- the
04:50:15 25 jury out and go into an argument about this right now.

04:50:20 1 I'll carry it, and if -- before Mr. Blevins takes the
04:50:23 2 stand, you'll -- I'll give you an opportunity to bring it
04:50:25 3 back up, and we'll cross that bridge then.

04:50:28 4 MR. MUELLER: Thank you, Your Honor.

04:50:29 5 THE COURT: Also, counsel, before the jury comes
04:50:32 6 in and so I won't forget, I've looked at what you've
04:50:35 7 previously submitted as a jointly proposed final jury
04:50:39 8 instruction and verdict form. And in light of how the case
04:50:43 9 has progressed, I don't find it to be particularly helpful.

04:50:46 10 So I'm going to order that you jointly meet and
04:50:49 11 confer and resubmit an updated proposed final jury
04:50:53 12 instruction and verdict form by 5:00 o'clock tomorrow.

04:50:56 13 MR. MUELLER: Understood. Thank you, Your Honor.

04:50:57 14 THE COURT: All right. Let's bring in the jury.

04:51:00 15 COURT SECURITY OFFICER: All rise.

04:51:16 16 (Jury in.)

04:51:17 17 THE COURT: Please be seated.

04:51:32 18 All right. We'll continue with the direct
04:51:38 19 examination of Mr. Kennedy by counsel for the Plaintiff.

04:51:41 20 You may proceed, Mr. Baxter.

04:51:44 21 Q. (By Mr. Baxter) Mr. Kennedy, were you here when there
04:51:48 22 was a little kerfuffle about whether or not the major
04:51:53 23 players in the market had taken licenses or not?

04:51:56 24 A. Yes.

04:51:56 25 Q. I want you to look at what we've got on the screen here

04:52:00 1 as Exhibit No. 10 and explain --

04:52:01 2 THE COURT: Let me interrupt you, Mr. Baxter.

04:52:03 3 MR. BAXTER: Sir?

04:52:04 4 THE COURT: Let me interrupt you.

04:52:04 5 MR. BAXTER: Yes, Your Honor.

04:52:04 6 THE COURT: Before the recess, I unsealed the
04:52:07 7 courtroom. Is there a need to reseal the courtroom,
04:52:10 8 counsel?

04:52:11 9 MR. BAXTER: I'm afraid there is probably,
04:52:12 10 Your Honor.

04:52:12 11 THE COURT: All right. Then, based on that
04:52:15 12 representation, I'll order the courtroom sealed and I'll
04:52:19 13 direct all those present not subject to the protective
04:52:23 14 order or aligned with Defendant Apple to excuse themselves
04:52:26 15 until I order the courtroom unsealed and reopened.

04:52:30 16 (Courtroom sealed.)

04:52:30 17 (This portion of the transcript is sealed
04:52:30 18 and filed under separate cover as
04:52:31 19 Sealed Portion No. 8.)

06:07:28 20 (Courtroom unsealed.)

06:07:29 21 THE COURT: And with that, ladies and gentlemen,
06:07:31 22 you're excused until tomorrow morning.

06:07:33 23 COURT SECURITY OFFICER: All rise.

06:07:34 24 THE COURT: If you'd lead the way, please,
06:07:37 25 Ms. Scott.

06:07:38 1 JUROR: Thank you. Yes, sir.

06:07:40 2 THE COURT: You've done a good job so far.

06:07:42 3 (Jury out.)

06:07:42 4 THE COURT: Mr. Kennedy, you can step down for
06:07:55 5 right now.

06:07:56 6 THE WITNESS: Thank you, Your Honor.

06:07:56 7 THE COURT: Please be seated.

06:07:57 8 Counsel, let me remind you that, as we did this
06:08:04 9 morning, I intend to call out a representative for both
06:08:07 10 sides to read into the record tomorrow morning those items
06:08:11 11 from the list of pre-admitted exhibits that have been used
06:08:13 12 during today's portion of the trial.

06:08:16 13 I expect you to meet and confer about that
06:08:19 14 overnight. I really don't expect there to be any
06:08:21 15 disagreements, and I've given you clear guidance about how
06:08:24 16 to do that. But I will do that before I bring in the jury
06:08:32 17 in the morning.

06:08:33 18 Also, with regard to any disputes that may develop
06:08:38 19 overnight, this evening -- I have yet to get a rendition
06:08:43 20 from the parties that gives me the disputed demonstrative
06:08:46 21 and just the disputed demonstrative with a clear and
06:08:51 22 succinct statement of what the parties' competing positions
06:08:54 23 are, and I don't think that's too much to ask.

06:08:56 24 When I come in the morning and I've got a binder
06:09:02 25 with six thick inches of paper from you all overnight, it

06:09:07 1 really is of no use to me. There's no way I can get
06:09:10 2 through that before we have to bring the jury in and start
06:09:14 3 the trial.

06:09:15 4 So try to give me what I've been asking for. And
06:09:17 5 I don't know if these binders are being prepared in Boston
06:09:22 6 and Los Angeles and emailed overnight or where they're
06:09:22 7 coming from, but they're not helpful the way I've been
06:09:22 8 getting them.

06:09:23 9 And I've said this to you in chambers. I'm going
06:09:27 10 to say it to you again on the record in hopes that will
06:09:29 11 make a difference. Give me any disputed demonstratives.
06:09:32 12 Don't give me demonstratives that aren't in dispute. And
06:09:35 13 give me a succinct single paragraph outlining each party's
06:09:39 14 position about each disputed demonstrative.

06:09:43 15 And I'll look for an update from you in writing by
06:09:48 16 7:00 a.m. in hopes that some of those have been resolved
06:09:54 17 overnight.

06:09:54 18 And, as I said, we will read into the record the
06:09:58 19 exhibits from today's portion of the trial before I bring
06:10:00 20 in the jury.

06:10:00 21 Are there any questions from either side before we
06:10:03 22 recess for this evening?

06:10:05 23 MR. SHEASBY: Your Honor, I just have one, which
06:10:08 24 is -- which is -- it's a point of agreement. I can read in
06:10:10 25 the time splits for Mewes and Stewart because I know that's

06:10:15 1 something that's been outstanding.

06:10:17 2 THE COURT: I'll take that -- or I'll direct you
06:10:20 3 to give that to my staff after we recess, Mr. Sheasby.

06:10:22 4 MR. SHEASBY: Thank you, Your Honor.

06:10:23 5 THE COURT: I will tell you that we got in 7 hours
06:10:25 6 and 7 minutes today.

06:10:27 7 And I will refer you to my law clerks as to an
06:10:33 8 exact split between the parties once we factor in those
06:10:38 9 deposition designation splits.

06:10:39 10 Are there other questions from Plaintiff before we
06:10:41 11 recess for the evening?

06:10:43 12 MR. BAXTER: No, Your Honor, not from the
06:10:45 13 Plaintiff.

06:10:45 14 THE COURT: Anything from the Defendant?

06:10:47 15 MR. MUELLER: No, Your Honor.

06:10:47 16 THE COURT: All right. And I assume after we
06:10:49 17 finish with Mr. Kennedy, then you will lead with
06:10:53 18 Mr. Blevins; is that right, Mr. Mueller?

06:10:54 19 MR. MUELLER: That's correct, Your Honor.

06:10:55 20 THE COURT: All right. Raise with me in the
06:10:57 21 morning your question about whether the door has been
06:11:00 22 opened or not, and I'll consider it overnight.

06:11:02 23 MR. MUELLER: Thank you, Your Honor.

06:11:02 24 THE COURT: We stand in recess until tomorrow
06:11:05 25 morning.

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COURT SECURITY OFFICER: All rise.

(Recess.)

CERTIFICATION

I HEREBY CERTIFY that the foregoing is a true and correct transcript from the stenographic notes of the proceedings in the above-entitled matter to the best of my ability.

/S/ Shelly Holmes
SHELLY HOLMES, CSR, TCRR
OFFICIAL REPORTER
State of Texas No.: 7804
Expiration Date: 12/31/20

8/5/2020
Date